THE INDEPENDENT PETROLEUM COMPANY

SENATE COMMITTEE HEARINGS

THE INDEPENDENT PETROLEUM COMPANY

HEARINGS

BEFORE A

SPECIAL COMMITTEE INVESTIGATING PETROLEUM RESOURCES

UNITED STATES SENATE

SEVENTY-NINTH CONGRESS

SECOND SESSION

PURSUANT TO

S. Res. 36

(Extending S. Res. 253, 78th Congress)

A RESOLUTION PROVIDING FOR AN INVESTIGATION WITH RESPECT TO PETROLEUM RESOURCES IN RELATION TO THE NATIONAL WELFARE

TESTIMONY ON THE INDEPENDENT COMPANY

Presented to the

SPECIAL COMMITTEE INVESTIGATING PETROLEUM RESOURCES
UNITED STATES SENATE

MARCH 19, 20, 21, 22, 27 and 28, 1946

Distributed by

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THE INDEPENDENT PETROLEUM COMPANY

TUESDAY, MARCH 19, 1946

United States Senate,
Special Committee Investigating Petroleum Resources,
Washington, D. C.

The special committee met, pursuant to notice, at 10:30 a. m., in room 318 Senate Office Building, Senator Joseph C. O'Mahoney (chairman) presiding.

Present: Senators O'Mahoney (chairman), Moore, Brewster, Hatch, Willis, and McCarran.

Also present: Henry S. Fraser, chief counsel to the committee; Capt. C. P. Franchot, USNR, representing the Navy Department; Col. James H. Wright, War Department; John A. Loftus, R. Townsend, and Robert Eakens, Department of State; James H. Mayes, H. B. McCoy, and Robert M. Weidenhammer, Department of Commerce; E. B. Swanson, Department of the Interior; William H. England, chief economist, and W. T. Kelley, chief counsel, Federal Trade Commission; Roy E. Anderson, director, Tanker Division, War Shipping Administration; Wilbert G. Fritz, War Assets Corp.; John W. Snyder, Director, Office of War Mobilization and Reconversion; Harold Reppert and L. H. Noble, Office of Price Administration; Alfred Jacobsen, president, Amerada Petroleum Corp.; B. L. Majewski, vice president, Deep Rock Oil Co.; and Russell B. Brown, general counsel, Independent Petroleum Association of America.

The Chairman. The committee will please come to order.

It is hardly necessary for me to announce that the purpose of the meeting of the committee this morning is to give the industry an opportunity to discuss the position of the independent company in all phases of the petroleum industry. Everybody in this industry, and in every other industry apparently, talks about the importance of maintaining free enterprise and competition. That cannot be done unless we maintain an opportunity for the independent, no matter what the industry involved may be.

We have just come through a great war, in which, in order to achieve the objectives for which this Nation committed itself in the fighting, it was necessary to adopt a great many governmental controls. Frequently I have referred to them as totalitarian controls, because they were definite orders which were given by the Government to all branches of industry and to the people, so that the efforts and resources of the Nation might be marshaled for the striking blow delivered against the enemy.

Now we have assumed that that phase of our history is behind us. It is an assumption which I think the whole country hopes will be realized, and that it will not be necessary for us again to go to war.

That is a fond hope, which this Nation has cherished for many, many years. If that hope is realized, then we shall have to find a way to maintain free enterprise in peace, to find a formula by which new enterprises and old enterprises can work together in a free economy, which is a democratic economy, to maintain the best interests of all the people.

The committee has given the industry an opportunity today to speak out. We shall try to run this hearing as we have run previous hearings, by the discussion method, so that I shall first undertake to identify, for the record and for all who are present, the persons who are going to testify and those who are to participate in the discussions.

May I say first, however, that as I entered the room this morning I was given information, which may already have reached the representatives of the petroleum industry here present, and in which you are all vitally interested. That information comes to me from the OPA to the effect that the order raising the price of crude oil ten cents is already prepared and is about to be issued. So we begin this hearing with the assurance that there is at least a small increase in the price of crude oil, by the grace of the OPA.

Mr. Brown. The effective date, I think, is the 29th.

The Chairman. Mr. Brown, will you please call the witnesses who are here for the committee organized by the Independent Petroleum Association? I will ask you to rise as your names are called.

Mr. Brown. Mr. Chairman, in response to the original notice, we attempted to organize certain branches of our testimony so it would not conflict. At the same time there may be many who may not have sat with us in the preparation of their testimony, who may be here in addition to those whose names I have.

On the list that we have is Maj. B. A. Hardey, of Shreveport, who is the president of the Independent Petroleum Association of America; Col. Harold B. Fell, executive vice president, Independent Petroleum Association of America, of Ardmore, Okla.; Don T. Andrus, of Bradford, Pa., an independent oil producer; O. C. Bailey, of El Dorado, Ark., an independent oil producer; H. M. McClure, who will be here later, and who is from Michigan; Charles R. Bell, of Oklahoma City, Okla.; Merle Becker, of St. Louis, Mo.; Wirt Franklin, the first president of the Independent Petroleum Association, of Ardmore, Okla.; and Fayette B. Dow, of Washington, D. C., for the National Petroleum Association, and Western Petroleum Refiners Association.

Those, Mr. Chairman, are the witnesses on the original list with whom we have been conferring. There probably are a number of other witnesses who may appear.

The Chairman. Now, are there any other witnesses from the industry? Has Mr. Roeser arrived?

Mr. Brown. Mr. Roeser is not able to be here, and Mr. Becker has the report of the committee of which Mr. Roeser was chairman. He will, at the time of the presentation of his testimony, offer that, if he may.

The Chairman. Mr. Majewski.

Mr. Majewski. Here.

Mr. Brown. Mr. Majewski is one of those who sat with us.

The Chairman. Mr. Wynne?

(No response.)

The Chairman. Colonel Byrd?

Colonel BYRD. Here. Mr. Wynne's mother died, and he will not be able to be here. I may appear as a witness.

The CHAIRMAN. Mr. Callis I know is not here this morning, but I think he is represented.

Louis M. Faber?

Mr. FABER. Here.

Captain FRANCHOT. I would like the record to show that I am also a member of the Independent Oil Producers Association.

The CHAIRMAN. It is so ordered.

Now it is understood that if we follow the practice which has heretofore been followed by this committee, the witnesses will not object to being interrupted, so that we may develop the fullest possible information with respect to the subjects which are now under discussion. We are now ready to begin the testimony.

Mr. FELL. Mr Chairman and members of the committee. Major Hardey, chairman of the committee on the independent company, will make the opening statement. I will present Major Hardey.

STATEMENT OF B. A. HARDEY, PRESIDENT, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

Mr. HARDEY. Mr. Chairman and gentlemen of the committee. I am B. A. Hardey, of Shreveport, La. I am an independent producer of oil and gas and have been engaged in the oil- and gas-producing business for more than 30 years.

I am chairman of the Louisiana Mineral Board, which is a State agency, and am a member of the National Crude Oil Industry Advisory Committee appointed by the Office of Price Administration. I am president of the Independent Petroleum Association of America, and in connection with the hearings of your committee, I am serving as chairman of the committee on the independent company.

The CHAIRMAN. What is the membership of the association of which you are the president, Mr. Hardey?

Mr. HARDEY. About 6,500 members of the Independent Petroleum Association.

The CHAIRMAN. What branches of the oil industry do they represent?

Mr. HARDEY. They represent the independent group, composed largely of producers, and some producers who are also engaged in an integrated way in refining and distribution.

The CHAIRMAN. What parts of the country?

Mr. HARDEY. Our membership extends to, I am sure, every oil-producing State of the 23 oil-producing States, and we have considerable membership in States outside of the oil-producing States who have interest in production, of course, in other States.

The CHAIRMAN. Do you have marketers among your members?

Mr. HARDEY. Yes, we have marketers and refiners, both.

The CHAIRMAN. You say they are principally producers of oil?

Mr. HARDEY. Yes.

The CHAIRMAN. What percentage of the membership are engaged in production?

Mr. HARDEY. By far the largest percentage, Mr. Chairman. I do not have the figures on the exact percentage, but comparatively few of

the producers, of course, are integrated. Comparatively few have any pipe lines, refineries, or marketing organizations.

The CHAIRMAN. Do you have any figures to show the total production which is obtained by the members of your group?

Mr. HARDEY. Of purely our group?

The CHAIRMAN. Yes.

Mr. HARDEY. No, I do not. We do not carry our statistics on that basis, Mr. Chairman.

The CHAIRMAN. What is the basis for admission to membership in the Independent Petroleum Association?

Mr. HARDEY. Admission to membership in the association is restricted to the man who classes himself as an independent, and is a purely domestic producer, or refiner, or marketer of oil.

The CHAIRMAN. And that brings up the question of definitions. What is an "independent"?

Mr. HARDEY. An "independent" is an individual, I think, Mr. Chairman, who can carry on his business without being swayed by outside influences; who is not influenced to any extent in his marketing or in any of his policies by any other group of operators, and who certainly is not dependent upon a source of foreign oil for his operations. Our membership recognizes that it is purely a domestic organization.

The CHAIRMAN. That reminds me of a definition which was given in a lawsuit in Philadelphia several years ago by an oilman who was a witness. He undertook to identify the Standard Oil Co. of New Jersey as an independent company because they did what they pleased.

All right, you may proceed.

Mr. HARDEY. My last reference to my identification, Mr. Chairman, was that I am serving as chairman of the committee on the independent company. This committee was chosen from the industry to arrange for adequate testimony on the subject of today's hearings. Other committees from the industry made arrangements similar to ours as to subjects your committee has previously considered.

A representative committee was appointed to plan for the testimony on the independent company. Independent producers and representatives of integrated companies served on the committee and reviewed the several papers which the witnesses prepared. The personnel of our committee is shown on the list attached to my statement, labeled "Exhibit A." [*Infra*, p. 21.]

It has been our understanding that it is the desire of your committee to learn of the problems of the independents in the petroleum industry as distinguished from those of the integrated major companies. The members of the committee on the independent company and the officers and members of the Independent Petroleum Association of America and of other associations in the industry have given much time and thought to the subject of this hearing. We felt that this was a great opportunity for us; that here would be provided a forum in which we could present the several phases of the case of the independent company in the detail we believe to be warranted. It is now past the time to obtain a solution of the problems which bothered us during the time of war and restrained us from making as full a contribution to success as we wished.

Some of those problems carried over into the postwar time and others have been added. Their certain and sound solution is essential, we believe, to the economic advancement of our Nation and to

its security. These problems will be outlined by the several witnesses who will appear on this occasion. While our committee coordinated the testimony of the several witnesses who will appear before you in order to prevent duplication, I would like for your committee to know that each witness, who is a specialist on the subject assigned to him, has incorporated in his testimony his own thinking on the matter under discussion. A list of them and their subjects is attached as "Exhibit B." [*Infra*, p. 21.]

Mr. FRASER. Do I understand, Major Hardey, that as you assembled your testimony and contacted your various witnesses, you also indicated far and wide that any other individuals in the industry throughout the country who wished to testify at this hearing were urged to do so?

Mr. HARDEY. The door was closed to no one. We are attempting to present here, without duplication, a correct story of the independent company, and in doing so, we selected the number of witnesses that we thought would properly cover the various subjects under consideration. But the door was not closed to anybody who wanted to come in and add suggestions, or papers, if necessary, for the purpose of bringing out all the facts. The committee was simply one for coordinating purposes and attempting to save the time of your committee, and to be sure that no duplication would come about.

The CHAIRMAN. Do you have a reviewing committee?

Mr. HARDEY. The committee on the independent company, of which I am chairman, had a couple of meetings to review this testimony and go over it, to be sure that eliminations might be made where necessary, not to edit it, but to see that each witness properly covered his subject. We did that largely by correspondence, but we did have two meetings, I think, on the subject.

The CHAIRMAN. What was the rule on elimination?

Mr. HARDEY. To prevent duplication, Mr. Chairman.

The CHAIRMAN. And only that?

Mr. HARDEY. Yes. I stated a little earlier that each witness prepared his own testimony basically and incorporated his own thinking on the subject that he touches on. There was no attempt to force the committee's thinking.

The CHAIRMAN. No attempt to censor?

Mr. HARDEY. No attempt to censor or edit.

The CHAIRMAN. Very well; you may proceed.

Mr. HARDEY. Before making way for these witnesses, I should like to touch briefly on a few of these problems. First, let me emphasize that we of the independent group seek nothing more than the maintenance of an economic climate—to use your committee's appropriate expression—in which we can live and do our most effective work. The independents have throughout the history of our industry provided an important measure of leadership in its development, and have not asked for special dispensations at the hands of government, either Federal or State. They have always preferred to lead, not to lean. When they made their representations to Congress some years ago concerning imports of oil, they asked only that the same recognition be given to them that was given to other industry. When they have appeared before Congress or governmental agencies to present their case on taxation, they have asked only that due recognition be given to the hazards of a business that is by nature unavoidably hazardous.

When they made their case, over and over, to Congress and to governmental war agencies on the price of crude oil, they were seeking to obtain correction of an inequity which existed throughout the war and in which respect theirs was a unique case. The increased costs of expanding production to wage war were given due weight in Government's price-fixing policy in all important fields except that of oil production. Here the piecemeal "adjustment" policy followed was so far short of realism that problems already existing were enhanced in scope and gravity.

We still face the price problem.

Mr. FRASER. You feel you still face it despite the recent OPA announcement for a 10-cent increase for crude?

Mr. HARDEY. Yes, sir; we still face it. It is of first importance. Unless it is solved, independents will continue to sell to majors and quit business. We face the problem of imports, once corrected by Congress but restored to the status of a problem by diplomatic agreements; it is a problem more ominous, as it now stands, than ever before.

Senator BREWSTER. Is someone here who will develop that diplomatic phase?

Mr. HARDEY. Yes, sir; I am touching briefly on this subject, so it will just lay a background for more complete presentation later. [Resuming:]

Our taxation problem has been a perennial, and twice during this war we have had to meet the issue of unjust Federal attacks. Some of our number operate on public lands and more would under conditions that encouraged risk of capital and effort; there are bills now in Congress for correction of certain restrictions on public lands which we hope will receive proper and prompt consideration. Confusion has been created and is increasing because of the many agencies of Government which control lands other than what are commonly thought of as public lands. There is the growing problem of the so-called farm cooperatives. I know that your committee does not consider that question pertinent to this inquiry, but because of its importance to the petroleum industry, I mention it in passing.

These problems which I have briefly mentioned impose a definite burden on the independent oil operator and seriously handicap him in his efforts to function properly.

The oil and gas reserves of the Nation are found by men. These reserves are drawn upon and used to fill consumers' requirements, and they must be developed by these same men. Let us, then, think of this large group of independent producers as men equipped by education and experience with a particular kind of skill.

Mere skill, however, is not enough. There must be conditions favorable to the use of special talents and abilities. The oil producer should be encouraged in his efforts by the hope of making a profit. If conditions for making a profit are present or seem to be immediately in prospect, the independent producer will increase his efforts. He will get the money together if he can and finance a "wildcat." There are some who think that "wildcatters" and producers of oil are different kinds of operators. There is no such division. Most operators who drill "wildcat" wells are also producers, and a large percentage of producers at some time or other drill "wildcats." Major companies drill "wildcat" wells, as do the independents, and often it is a joint

venture—one helping the other. In other words, the discovery function of the industry is naturally and simply a part of the business of producing oil, and the consideration of producing problems must include attention to—in fact emphasis on—the business of discovery.

During the war, conditions developed which made serious inroads into the ranks of the independent producers. Many have been leaving the business. Some have sold their properties to farm cooperatives who enjoy a tax advantage over private industry. Others have sold to major companies. The trend in either case is toward the concentration of economic power.

The CHAIRMAN. When you refer to the selling of properties to farm cooperatives and to majors, do you mean to suggest that producers sell to both farm cooperatives going into the production of oil, and to majors?

Mr. HARDEY. They have been buying them out, Mr. Chairman, right along, at prices that an independent cannot afford not to sell out. He is selling his properties out and going out of business. He is buying farms, he is buying apartment houses, and going out of the oil business.

The CHAIRMAN. You did not understand my question, I think, Major Hardey. Are farm cooperatives buying producing oil businesses?

Mr. HARDEY. They are buying producing oil wells, they are buying pipe lines, they are building pipe lines, they are buying refineries and operating them.

The CHAIRMAN. When you speak, then, of farm cooperatives going into this phase of the business, are you referring to the cooperative oil companies?

Mr. HARDEY. They started out as farm cooperatives, as I understand it, Mr. Chairman, and they have branched out in so many lines of business, including oil, that you can buy anything from a horse collar to a wedding ring from them.

The CHAIRMAN. What I am trying to get clear on the record is the character of operation conducted by the farm cooperative, which is the name you have given it.

Mr. HARDEY. Yes.

The CHAIRMAN. Now the farmers have formed cooperatives for the purpose of supplying themselves with oil. I do not know of any farm cooperatives which were formed for the purpose of raising agricultural crops as such. So that the cooperative you are referring to is the cooperative organized for the purpose of supplying petroleum and petroleum products to the members, is it not?

Mr. HARDEY. I think the farm cooperatives have branched out into this business of producing and refining oil. Under the original act, they set them up as farm cooperatives.

The CHAIRMAN. You mean the cooperatives that were formed for the purpose of marketing agricultural products are also marketing petroleum products and are now going into the producing business?

Mr. HARDEY. That is right.

Mr. FELL. Mr. Chairman, may I ask the Major a question? I hope it will clarify it.

The CHAIRMAN. I hope you will.

Mr. FELL. Don't they also sell to filling stations and sell to people who are not members of the cooperative?

Mr. HARDEY. Yes; they sell to anybody. They sell to anybody that comes along, and they will buy anybody's oil they can. They are building pipe lines. They are enjoying tax advantages so they can afford to pay prices for producing properties that a man cannot afford to turn down, in many cases.

Senator BREWSTER. Will there be anyone to tell us how extensive that movement is?

Mr. HARDEY. I do not think any witness has prepared to expand very much on that, Senator.

Senator BREWSTER. Will the Government have that information, do you know?

Mr. HARDEY. I am sure some branch of the Government would have it.

Senator BREWSTER. You say "the trend in either case is toward the concentration of economic power." Do you mean to indicate that the farm cooperatives are in some form of association with the majors?

Mr. HARDEY. I would not connect the two together; no, sir. I do not think the major companies like that sort of thing any more than the independents themselves.

Senator BREWSTER. You do not mean to intimate that concentration of power in the farm cooperatives would be a move toward concentration of power in the oil business?

Mr. HARDEY. If they keep on receiving tax advantages, they will.

Senator BREWSTER. You mean concentration of economic power in the farm cooperatives, not in the oil business?

Mr. HARDEY. Well, it will be a true concentration, Senator.

The CHAIRMAN. The conclusion is that perhaps the cooperatives will eventually be competing with the majors.

Mr. HARDEY. I think they already are, Mr. Chairman.

The CHAIRMAN. Earlier in your statement you said you assumed that this committee did not consider this phase of the problem within its jurisdiction.

Mr. HARDEY. I mentioned it in passing, because I did not think it pertinent to the subject matter that was assigned to us.

The CHAIRMAN. You say, "your committee does not consider that question pertinent to this inquiry, but because of its importance to the petroleum industry, I mention it in passing."

Now this committee has not taken any position to exclude that, or any other phase of the problem, and when notice was given of this hearing, the chairman took particular care to try to make it clear that the witnesses who come here are at perfect liberty to discuss any phase of the problem, and that, of course, includes this cooperative matter.

Mr. HARDEY. Yes.

The CHAIRMAN. Because if it affects the industry, a complete and final decision with respect to our national petroleum policy can scarcely be reached without taking that into consideration. So I give notice again that the committee will be very glad to hear any testimony that affects the petroleum industry.

Senator BREWSTER. Will it be in order, if the industry does not have it, to have any governmental agency that has information on this come here and tell us about it, so we will have an idea as to how far it is a matter of significance?

The CHAIRMAN. We shall undertake to have our staff cover that.

Mr. HARDEY. There have been published treatises on this subject by some department of the Government, I cannot tell you just which, but it was written in a bragging sort of way. They were rather proud of the extension of these cooperatives. I am sure it can be found in the files of some of the Government agencies.

Senator MOORE. I think it would be proper at this time to read into the record an excerpt from the report of the Federal Trade Commission on distribution methods and costs.

The CHAIRMAN. I was about to ask Mr. England if he had anything to say on that subject.

Senator MOORE. He just handed this to me. This is headed, "Retail cooperative marketing of petroleum products."

The CHAIRMAN. Will you identify the report in the first place, Senator Moore?

Senator MOORE. This is part IV, "Petroleum Products, Automobiles, Rubber Tires and Tubes, Electrical Household Appliances, and Agricultural Implements."

The CHAIRMAN. Published when?

Senator MOORE. By the Federal Trade Commission in 1944. It states:

> Purchase and distribution of gasoline and other petroleum products have been a development of the cooperative movement only since 1921, but have had a remarkable growth. At the end of 1939, it was estimated that there were 1,400 retail cooperative petroleum associations, with a membership of 450,000, and that their combined business amounted to $86,000,000. Cooperative petroleum associations were particularly strong throughout the Middle West, handling, for example, 10.6 percent of all gasoline, kerosene, and other refined light oils brought into Minnesota during the year 1939.

The CHAIRMAN. Production as compared to the recent development?

Senator MOORE. They bought refineries and production properties at prices that ran into many millions of dollars.

The CHAIRMAN. Yes.

Senator MOORE. That is, in Kansas, Oklahoma, and other places in the Middle West.

Mr. ENGLAND. Mr. Chairman, the next paragraph, which the Senator did not read, goes on and develops the fact that they had bulk stations and well organized distribution facilities.

The CHAIRMAN. That raises one of the most important questions in the whole problem, and that is development in integration of an industry. The petroleum industry is not an exception. Many other industries have developed integration.

Testimony before various committees of Congress has developed the fact, in other hearings, that many representatives of nonintegrated companies feel that they are at a disadvantage because they are not in a position to offset losses in one branch of the industry against profits in another. They are confined to winning their success by the particular effort in which they are engaged. Now, this development of integration among the cooperatives is apparently just an example of the result which flows from the causes which operate upon the whole industry. The integrated companies have become integrated because they have felt, I suppose, that it was the efficient way to operate, and yet it has brought about economic concentration. I feel that no full

discussion of the position of the independent company can be had without a study of the whole effect of integration.

Mr. HARDEY. The important thing, Mr. Chairman, from our point of view as an independent company, is it is driving out independents from business. Those fellows can borrow money from the Government a whole lot cheaper than our group can go to the bank and borrow it. They have a tax advantage all the way through. You give me the tax advantage that the cooperatives enjoy, and if I live a few years, I can be as big as the Standard Oil Co., and they will, too, if you do not watch them. So something has to be done to prevent this thing, for they are going out and buying these properties and concentrating through these groups their efforts at producing, transportation, marketing, and refining. It is becoming a distinct threat to this industry, I think.

The CHAIRMAN. Does that imply a belief that bigness is not in the public interest, bigness alone?

Mr. HARDEY. I would not say that bigness is not in the public interest, Mr. Chairman, but I think the development of such things as that, with the use of Federal money which comes from the taxpayer—and they put nothing back in the public till, nothing to amount to anything, not as private industry does—I think it is a definite trend in the wrong direction and will eventually break up the American way of life, the American institution of private enterprise.

The CHAIRMAN. Then your complaint goes to the tax feature of it?

Mr. HARDEY. That is a big advantage, and the source of money. They can borrow Federal money.

Mr. FRASER. Does your complaint also go to the cooperative theory?

Mr. HARDEY. Well, in my opinion, Mr. Counsel, a continuation of the trend would take us right over to Russia, that is all. I am not saying that facetiously. I think it is a trend in the wrong direction. It is not the American way of carrying on business.

Senator BREWSTER. Your point of objection is there are Government advantages which are extended to them, is that right?

Mr. HARDEY. That is right.

Senator BREWSTER. If they were competing in the free market you would take their chances with them, and if they could survive in free competition, you would not object?

Mr. HARDEY. They probably started out with the right idea, Senator. I think the idea of cooperative marketing of farm products, which laid the basis for the enactment of this legislation, might have been all right, but those privileges have been extended too far, and it has permitted too much expansion of this business. If it were limited purely to that, there would be no competition with private enterprise. If a man goes about to organize a group in the community to market his carrots or beets, I see no particular objection to that.

When you give a man unlimited borrowing capacity with very little security, except the thing he buys, and then give him an advantage on income taxes, he does not even have to distribute all of his profits each year, like private industry does, he can use them for expansion purposes. To me it is just like an octopus, that is all, which reaches out its tentacles, that will eventually throttle industry, if somebody does not stop it.

The CHAIRMAN. Your objection does not go to the idea of cooperation?

Mr. HARDEY. No. sir; not in principle.

The CHAIRMAN. It goes to what you regard as special advantages?

Mr. HARDEY. That is right. In principle it is all right. It started out all right, but it was allowed to expand too far.

The CHAIRMAN. All right, sir; you may proceed.

Mr. HARDEY. The independent producer, in addition to finding——

Senator MOORE. Pardon the interruption. Mr. Chairman, Senator Hatch has suggested a question. Have these cooperatives gone into production and are they producing oil and drilling for oil?

Mr. HARDEY. Yes, sir.

Senator MOORE. I thought so.

Mr. HARDEY. They employ a geologist to guide them in their production operation that used to work for me a long time ago. I do not believe I can pay him as much now as they do. [Resuming:]

The independent producer, in addition to finding a large percentage of the oil fields of the Nation, to date has been instrumental in keeping competition in the oil industry alive. Monopoly cannot exist so long as there is an independent source of crude-oil supply on which the independent refining industry can rely. This has not been an unmixed blessing for the producer. The competitive spirit carried over into marketing has resulted in wars for gallonage, conducted largely on the basis of price, and the reflection of price cutting invariably came swiftly to the producer. The net result of the competition, however, has always been of public benefit.

The independent producing industry, when war began, was making progress in its recovery from the distress conditions of the early 1930's when the general economic depression was deepened for the oil industry by a series of discoveries of prolific fields, including the East Texas field, still the greatest ever found in the United States, the Oklahoma City field, and numerous others in Oklahoma, Kansas, Texas, and New Mexico. A considerable volume of crude oil was sold for the ridiculous price of 10 cents per barrel. With set-backs, partly due to increasing imports, the producing industry over a period of several years was moving to a level of compensatory return when price control was instituted. Since that occurred, we have lost ground. Costs mounted and the price relief for that condition was not allowed.

The war years were, for the independent producer, filled with a greater share of distress than for other segments of the industry. They wanted to perform a greater share of the war work, but they were restrained by their Government. The difficulties which the producer was called to face during the war were the result of misconceptions on the part of the Government, as to the importance of crude oil. These misconceptions resulted in the failure to recognize the producers' needs for manpower, materials, and income. Skilled employees were lost through inability to compete with higher wage industries. Materials were scarce, but the scarcity was aggravated by diversion to uses that did not at any time promise the results which we were certain would be had at home. And, even in spite of the lack of materials and manpower, we could have done much more with that which we had if we could have paid the price.

The misconceptions in time became so evident that they were given literary expression which was widely quoted. It was said that the producer was expected to live off his fat.

That is behind us. We can only set about to make up for lost time. The Nation should not sacrifice any more of the discovery and development know-how that is in the minds of thousands of independent oil producers. The knowledge and ability can be activated and the entire people be enriched by the assurance of oil and gas reserves sufficient for all needs. To make certain of this, there must be a reversal of the trend in recent years—a trend indicated in part by the Treasury Department figures for 1943, when 436 fewer oil-producing corporations had taxable income than in 1942.

I would like to say in passing, Mr. Chairman, that is only the companies of record. It does not reflect the reduction in hundreds and hundreds of individuals who went out of business, which you could get no record of.

The CHAIRMAN. Do you wish the committee to understand that this reduction in the number of oil-producing corporations that had taxable incomes in 1943 was due to action by the Government?

Mr. HARDEY. Yes, sir.

The CHAIRMAN. Exclusively?

Mr. HARDEY. It was due to the whole economic conditions: the shortage of manpower, which probably was necessary in large case; the high cost of materials and scarcity of equipment; and one of the most important things was the ability of a producer who had marginal production over here—he could go out and sell second-hand casing at a higher price than OPA put on new casing, and he could make more money taking his casing out than he could from the oil. People were automatically going out of business. They are selling out, and, of course, they get off of the tax rolls. You talk about your concentration of economic power. They went into the ranching business because the prices of cattle were going way up there. They were buying business property; they were buying Government bonds and living on less income. That was the direct result of the lack of proper economic climate that surrounded the oil producer.

The CHAIRMAN. Of course, the record of the War Production Board, for example, shows that the control of materials, which was maintained during the war as a war measure, was speedily dropped as the war moved towards a conclusion. For example, the controls exercised by the War Production Board were materially reduced after victory in Europe and before the victory in Japan. Then when VJ-day came, the War Production Board practically folded up, and the Civilian Production Administration took its place and exercised controls over vastly fewer commodities, so that the control of materials and these other directives were war conditions.

Mr. HARDEY. That is right. We have had no shortage since VJ-day.

Senator HATCH. Mr. Chairman, I am not a member of this committee, but may I ask the witness a question?

The CHAIRMAN. We shall be happy to have you do so, Senator Hatch, not only because you are chairman of the Public Lands Committee but because you come from a State which has a pretty big stake in the oil business.

Senator HATCH. I am especially interested in the independent tradition.

Mr. Hardey, as to this figure that you gave of the Treasury Department for 1943 as compared with 1942, do you have any figures for subsequent years? Does that same trend continue?

Mr. HARDEY. I am quite sure it does, Senator Hatch. I do not have the figures for it, but I am sure they are available and could be got for you.

Senator HATCH. You did not just select a couple of years out of the air?

Mr. HARDEY. No; that was the last available published data that we had from the Treasury Department.

Senator BREWSTER. As I understand your position, you feel other industries were more favored by OPA so it drew people from the petroleum industry?

Mr. HARDEY. I think a lot of materials were diverted from the petroleum industry that could have served a better purpose in the petroleum industry. I think the War Production Board and other agencies that had anything to do with it should have sent less steel to South America, to develop the oil reserves in Venezuela that could have just as well served here. There was inefficiency in the distribution of a lot of products and materials that far exceeded even their usefulness to the petroleum industry here.

Senator BREWSTER. You spoke about going into the cattle business because it was more profitable. Would you expand a little on that?

Mr. HARDEY. A lot of fellows took their capital gains or losses and went out of the oil business to buy ranches, which were a little easier to run. You did not have so many manpower problems. The price of cattle went up during the early part of the war very rapidly.

Senator BREWSTER. I thought the OPA would be glad to call you as a witness to the fact that there was some industry that was favored by them. I haven't found any yet.

Mr. HARDEY. Senator, I think everything else in the world that I know anything about had gone up, except gasoline at the pump. I will challenge the OPA to name a few oil products that went up. I just do not know any crude product that had gone up. Your oil is about the only one of the whole bunch that has not gone up during the war. The only thing that the oil producer got was the subsidy on marginal oil production during the war. That was to keep them from pulling the casings out. It was to preserve some reserves in marginal production, to keep them from pulling the secondhand casing out of the well and selling their pumps likewise. It was not love that the OPA had for the petroleum industry as a whole.

The CHAIRMAN. Did you ever have any trouble with respect to price before the OPA appeared on the scene?

Mr. HARDEY. Mr. Chairman, we can pretty well take care of ourselves under ordinary economic conditions in the industry. We can get along pretty well when there is free play of economics in this business.

The CHAIRMAN. What proportion of your crude oil is sold to the majors?

Mr. HARDEY. I cannot give the percentage figures on that. A large part is sold to majors, of course, probably 90 percent.

The CHAIRMAN. Have you ever heard the complaint by independent producers that the price they received for their oil is fixed by the purchaser?

Mr. HARDEY. You will find a few who probably do not know the real situation who will assert that. I have the definite feeling, however, that, by and large, the principal producers and processors of

crude oil among the majors have the feeling that in order that this industry be properly stabilized you have got to build it from the ground up, and first of all the producer has to have a decent price for the oil to lay the proper foundation for the industry. If the industry does not receive the proper price, then the major himself is not going to continue to survive. He has got to depend finally upon domestic production. Unless that domestic production and the producer remain in a solvent condition and stay in business, they have no crude product to process. I feel they honestly believe the producer must have a decent price for his oil if the industry as a whole is to be stabilized.

The CHAIRMAN. I was prompted to ask that question because in my State I have heard many an independent producer complain about the price of oil, and particularly about what was known as the differential or very much lower price of oil paid to the producer in Wyoming than in the midcontinent field. I think it may be proper to state at this point of the record that it was not until the OPA came along that that differential was abolished and the independent producer in Wyoming got a better price for his oil.

Mr. HARDEY. I think Wyoming crude was always sold too low, Mr. Chairman.

Senator BREWSTER. You said you thought if it was left to the free flow of economic forces it would take care of itself. That means you do not want any governmental intervention, does it not?

Mr. HARDEY. On price?

Senator BREWSTER. Yes.

Mr. HARDEY. No, sir; we can take care of our own price business.

Senator BREWSTER. You were complaining about the 10 cents a barrel that you used to get. Are not you still desirous of getting out of that completely?

Mr. HARDEY. Yes. I think the Government very wisely enacted the Connally Hot Oil Act. That was in regard to oil produced illegally under State regulatory laws. It was impossible to produce that oil and transport it in interstate commerce. That was one of the fine things that this Congress did to prevent overproduction and wasteful production, way back in the years about 1931, 1932, and 1933, when this huge East Texas oil field came in.

Senator BREWSTER. Would not you recognize if the Government were to cooperate with you in petroleum production, that the Government would have to cooperate with you also in controlling the prevention of any abuses that might result from that integration?

Mr. HARDEY. I think it is fine for Congress to do that, to enact the necessary legislation suggested by the industry, but leaving the regulation in the State where they know their own problems best, Senator. I think the enactment of necessary legislation like the Connally Hot Oil Act is very helpful to the job which I think is a part of the job of the States to enforce, the regulation of production, the prevention of waste, conservation, and so forth. That is a program that should be left to the States.

Senator BREWSTER. Would not the producing States be primarily concerned with getting increased prices, where there are 23 other consuming States? I seem to be the only representative of them here, so I think I am the devil's advocate. What we are interested in is getting the product at a reasonable price.

The CHAIRMAN. You want to call yourself the angel's advocate, because the consumer is the angel of any business.

Senator BREWSTER. I want to be modest.

Mr. HARDEY. I think the past record on the price of petroleum gives you the best answer. The free play of economic forces is the kind of competition that has always existed in the petroleum industry up until some years ago, and has constantly put into the hands of the consumer a better product at a cheaper price all the way down the years.

Senator BREWSTER. You feel that without OPA there would not be any substantial increase in the oil prices?

Mr. HARDEY. I did think that, and I do now.

Senator BREWSTER. If that is true, how has OPA affected it?

Mr. HARDEY. Because I think the economics of the situation during the war limited an increase in the price of crude oil.

Senator BREWSTER. Then you think there would be some increase without OPA?

Mr. HARDEY. I think there would be some increase. I think that the refineries would recognize that and would have given us that increase in the price of crude, but they could not do it under the OPA.

Senator BREWSTER. You said just before that you did not think there would be any substantial increase without OPA.

Mr. HARDEY. I do not think it would have been substantial, but certainly would be enough to relieve us of some of the inequitable situation.

Senator MOORE. You would also have got more production.

Mr. HARDEY. Well, there would have been less cattle buying and less cooperative buying. There would be more producers in business.

Senator MOORE. And Senator Brewster's section of the country could have more hope that they would be supplied with the production that they needed.

Mr. HARDEY. There are two important things that must be considered: First, the assurance of continued supply, and, second, a decent price that will give all segments of the industry a proper profit. I think they are entitled to that. Thirdly, I think the national security must be watched. I think all of those combined are the function and duty of the petroleum industry.

Senator BREWSTER. In national security you introduce a new element. The argument on national security is that we would not again have to use up our oil resources.

Mr. HARDEY. Senator, I am reminded of the fact that it might have been a bad thing if this Congress adopted a policy like that some 25 years ago, when they were hollering back there at the Colorado Springs conference in 1924, when they wanted to shut off the wells of this country at that time and import oil because they thought it was a matter of good policy to conserve our oil. The natural result would have been a stagnation of this industry. It would have run the people out of business. They would have gone to farming, or something else.

But in spite of the demands that were made by people, some in the Government and a lot in the public, that we should preserve our oil, the Congress went ahead and instituted a policy of encouragement

of development of reserves. The chart shows a continuing ascent of reserves. We started this war with 19,000,000,000 barrels of reserves. If we did not have it—if we had been dependent on reserves in Venezuela or Saudi Arabia, or any other country, or in Russia—and that is where the reserves of the world are except our own—with the submarine menace you had at that time—where would we have been in this war? We were called upon to furnish 83 or 84 percent of the gasoline used in this war. If Congress had not adopted the policy of encouraging the development of reserves and making this industry stable and keeping it solvent, we would not have won the last war. I say we would not have won it, but I mean we would not have won it as early as we did, anyhow.

I do not know what is going to happen in the future, but it might happen again. I think in the interest of national security you have constantly to keep a good, healthy industry, because oil is about two-thirds of your entire tonnage in warfare, your overseas warfare, and it has to be where you can get it. I do not think it would be good public policy to be dependent on some foreign source of supply, with the hope that the State Department can keep some control for the national security. I just cannot see that that is good policy. However, some of these witnesses are going to tell you a lot more about that, Senator, and I am afraid I am transgressing on some of their papers.

Senator Brewster. You are doing pretty well.

The Chairman. Mr. Hardey, you spoke again of sales by independents. You have mentioned three groups. In your prepared statement you use this sentence, "Unless it [the price problem] is solved, independents will continue to sell to majors and quit business."

Now when you wrote that sentence you were apparently under the impression, as your paper indicated, that the committee did not want to discuss the cooperatives phase of the problem. My question to you, therefore, is: Can you tell us what proportion of independents who have sold out during this period have sold out to major companies and what percentage to cooperatives or to others?

Mr. Hardey. Well, a great many more have sold to larger companies than have sold to cooperatives, because the cooperative movement in oil is just now getting into full sway. Just during the last 2 or 3 years have they started going places. For that reason I think the major companies have bought more properties than the cooperatives have, because they covered more territory.

You know when you start out a growth like a cooperative movement it bursts out in different places all over the country, but it generally expands around the place where it started. That is true of the Middle West where it started. They have not got into our country in Louisiana and Texas yet, probably because it costs too much money to drill a well there and they got kind of scared of it, but it will happen in a while if something is not done about it, I think.

The Chairman. What is the principal market for the independent producer?

Mr. Hardey. For the sale of his oil?

The Chairman. For the sale of his oil.

Mr. Hardey. To the major refineries, of course. I would say 90 percent of the oil goes to refineries. They themselves do not export

oil as such, they sell it to domestic refineries. They sell it either to an independent refinery or the majors, wherever they happen to be located, of course. I have no figures on the refining industry, as to the refining capacity of the small refiners as compared to the majors, but, of course, what we call the 23 major companies refine the larger percentage of oil in this country.

The CHAIRMAN. Is it your opinion with respect to price, for example, that if price is left to the normal play of economic forces it would tend to slow up the sale of independents to the majors and to the cooperatives?

Mr. HARDEY. I think there is no question about that.

Senator HATCH. Mr. Chairman, I want to clear up a little misunderstanding that developed between the witness and Senator Brewster.

When you said there would not have been a substantial increase in the price of oil if it had not been for the OPA, isn't it true there would have been a substantial increase of 25 or 35 cents a barrel?

Mr. HARDEY. I think there would have been an increase but not in the terms that you hear the fellows speaking about its being inflationary, and that sort of thing. I think there would be a nominal increase.

Senator HATCH. What you would call a nominal increase, 30 cents a barrel, Senator Brewster would probably call a substantial increase 25 cents a barrel.

Senator BREWSTER. What would it amount to on the price per barrel?

Senator HATCH. It would run about $1.35, something like that.

Senator BREWSTER. From $1.10?

Mr. HARDEY. Your average price at the beginning of the war, your weighted average for crude was about $1.16 a barrel.

Senator HATCH. The point I am making, if that substantial increase had been granted, then in all likelihood a number of these independent producers would not have gone out of business. Is that right?

Mr. HARDEY. That is right.

Senator HATCH. The preservation of the independent producer is actually to the interest of Senator Brewster's people. He talks about the consumer.

Mr. HARDEY. That is right.

Senator BREWSTER. Was not that the recommendation of Mr. Ickes as Petroleum Coordinator, when he urged the higher price?

Mr. HARDEY. That is right.

Senator BREWSTER. That was opposed by the OPA?

Mr. HARDEY. Yes. Mr. Ickes and PIWC both recommended an increase in price of crude oil.

Mr. FRASER. Mr. Ickes recommended in the neighborhood of 35 cents a barrel increase, did he not?

Mr. HARDEY. Yes, and so did PIWC, the Petroleum Industry War Council. Prices were going up at that time, costs were going up, labor costs and material costs. They did not consider it in the public interest, nor in the interests of the Nation as a whole, that that important segment of the industry should be forced out of the industry, and we still feel that way, Senator Brewster. I do not think that concentration of economic power in any one industry is good.

Senator BREWSTER. Do you have any limit on the size of the companies who are members of your association?

Mr. Hardey. No.

Senator Brewster. The big companies are members?

Mr. Hardey. No, sir. It is not a question of size; it is a question of policy. We do not want them in our association if they are importing oil from foreign countries, and those who might be opposed to our policy of first favoring the domestic petroleum industry.

Senator Brewster. I notice you have on your committee some of the large companies represented.

Mr. Hardey. On this committee that is here today?

Senator Brewster. Yes.

Mr. Hardey. I think that was a fine thing to do, Senator, because it serves as a check and balance to all of this testimony. In the testimony presented first to your committee we also had some independents on there, and it had the effect of coordinating the presentation of both phases of this testimony to your committee. We have problems that are common to all segments of the petroleum industry. The majors know our problems as well as we know their problems, so in the interest of getting a proper story across to your committee I think it is a perfectly fine thing for our committee, the committee on the independent company, to have mixed in with it major company representatives, so we could get their viewpoint and their thinking on our problems. Likewise we had some independents on the committee that prepared the major company testimony, which you have already listened to, certain phases of it. I think it affords a very fine check and balance on the testimony that we present to you here.

Senator Brewster. Then there was a measure of integration recognized as desirable by yourself in the constitution of the committee?

Mr. Hardey. There was; yes.

Senator Brewster. You have got everybody represented but the farm cooperatives.

Mr. Hardey. Well, we do not mix with them very much.

Mr. Fell. Senator Brewster, might I ask Major Hardey a question? It may clear up this membership thing.

Senator Brewster. Yes, certainly.

Mr. Fell. Isn't it true that the constitution and bylaws of the Independent Petroleum Association of America prohibit membership of any company or individual who is engaged in importing crude oil into the United States, refining crude oil that is imported into the United States, or distributing products made from imported crude oil within the United States?

Mr. Hardey. That is the limitation placed on the membership of this association.

Senator Brewster. But you do not feel that was a handicap in the work of your committee to have somebody who did not represent your personal point of view?

Mr. Hardey. No, I do not think so at all.

Mr. Fraser. The committee that appears here today is, of course, not a committee of the Independent Petroleum Association of America?

Mr. Hardey. It is not, no. It is a cross section of the industry.

Mr. Fraser. It is a cross section of independent producers, refiners, and marketers?

Mr. Hardey. Yes, and also some of the majors are on this committee, because we have problems in the independents that are common to the problems of the majors, too. I think in order to prepare

and submit to you a correct presentation of this we should know something about their problems as we prepare this testimony, of course.

Senator BREWSTER. I think it is a very good idea, and you have made it perfectly clear just how the committee was constituted. You have independent members, so-called, that constitute by far the majority of your committee, so their position presumably would not be unduly influenced by the point of view of the minority if there was a difference of opinion.

The CHAIRMAN. Proceed, Mr. Hardey.

Mr. HARDEY (resuming). The United States has a choice to make. It can be self-reliant, with an assured supply of petroleum products at fair prices, a system of aggressive competition, or it can drift into a position of dependence on the oil of foreign nations, supplied by a few companies and with a once great independent industry moving to complete extinction.

We can supply some of the answers to the problems that we face. We hope to be able in the next 2 or 3 days to place before you a clear outline of the position of the independent company. It is our understanding that the objective of your committee is to ascertain what is desirable and best for the industry and for the people of a Nation whose welfare is so dependent on oil.

Our witnesses are, I feel sure, especially qualified to discuss the subjects that were assigned to them. Mr. Russell B. Brown is to tell you something of the independent producer of oil, how he has developed and what he has done.

Mr. O. C. Bailey, of El Dorado, Ark., will be the witness on oil and gas production. Mr. Bailey has viewed the subject as a producer and as a leader in the development of conservation practices. He is the chairman of the Arkansas Oil and Gas Commission. The work of this commission in the formulation of policy and the administration of conservation law has been widely acclaimed.

Under this same heading of production we have two witnesses on specialized subjects. Mr. D. T. Andrus, of Bradford, Pa., will discuss secondary recovery. It was in the Bradford field that the technique of water flooding to increase the recovery of oil was developed and Mr. Andrus has been one of its foremost practitioners. His efforts in this work and especially in the stimulation of fundamental research have gained for him the gratitude of the oil-producing industry. He is a past president of the Pennsylvania Grade Crude Oil Association. Mr. H. M. McClure, of Alma, Mich., will speak on the conservation of stripper wells, a problem that exists in every oil-producing State. Mr. McClure, an independent producer, is president of the National Stripper Well Association and has long been a member of the State Oil Board of Michigan; he is now chairman of that board, which advises the oil and gas conservation authorities of Michigan.

Charles R. Bell, of the Kerr-McGee Oil Industries, Inc., Oklahoma City, is the witness on taxes. Mr. Bell is regarded in the industry as an authoritative spokesman on this question. He has the ability to make intricate tax questions understandable—even interesting.

During the four years in which independent producers have sought correction of the inequitable price of crude oil, Mr. Merle Becker, of W. C. McBride, Inc., St. Louis, Mo., has been one of the most tireless of workers. He met the opponents both in the field of accounting

and of practical operating. He will speak on the subject of cost and price of oil.

The association of which I have the honor to be president was organized in 1929. Its first president was Mr. Wirt Franklin, of Ardmore, Okla., a man long experienced in producing, refining, and marketing. Mr. Franklin came to Washington soon after the organization of the association to devote all his time to the oil imports question. The task was great and the opposition was powerful. His forthright conduct of the independents' cause won for him the respect even of the opposition. He returns today to speak to your committee on the subject of imports.

Mr. Fayette B. Dow, of Washington, knows intimately the independent refining industry. He has represented as counsel for many years the National Petroleum Association, and the Western Petroleum Refiners Association. That representation included many things, freight rates, taxes, developments in chemistry and engineering—many other phases of the refiner's daily life. Mr. Dow will be the witness on the independent company in refining.

Another man of long experience is sitting with us as a representative of the independent marketer. He is Mr. B. L. Majewski, of the Deep Rock Oil Corp., Chicago. His company is a producer, refiner, and marketer, and his special field is marketing. I have always been impressed by the breadth of Mr. Majewski's knowledge not only of marketing but of the oil industry generally. Mr. Majewski and other marketers did not believe that their problems were involved in a national oil policy and for that reason have not prepared a statement for your committee; he is here to answer questions on marketing that may arise and to speak with reference to any testimony that may be presented by other marketers, should that seem desirable.

Our final witness will give your committee a summary of the several problems which we commend to your committee's attention. He is Col. H. B. Fell, an independent producer, of Ardmore, Okla., and executive vice president of the Independent Petroleum Association of America; an intense student of the economics of the oil industry and an operator who has discovered, developed, and produced crude oil. Colonel Fell was chosen to be the man well-qualified to make the final statement. His efforts have been devoted for several weeks to endeavoring to assure a complete presentation of the problems of the independent.

Again, we are glad of the opportunity to present our views to your committee. We believe that there is being established here the basis of that better public understanding of our problems and of their relation to American life—an understanding which we have sought for years to promote.

Our first witness will be Mr. Russell B. Brown. He is from the oil country, and grew up in the atmosphere of oil in southern Oklahoma. He has viewed the oil industry from that grass-roots perspective and from the national viewpoint. He has contributed much to the formulation of conservation laws and policies and he has always regarded the independent producer as a vital, an invigorating force in the development of the Nation. I speak the sentiments of thousands when I say that we look upon him as one of our most inspiring number.

Mr. Chairman, I very much appreciate this opportunity to appear here, and I do appreciate the fine and informal manner in which

these questions were asked. I will try to reply to any more questions as best I know. I would like the committee to know I am available at any time during this presentation to attempt to answer any questions that you have.

Senator MOORE. We feel you have done a very fine job, Mr. Hardey. Thank you very much.

(Exhibits A and B submitted by Mr. Hardey are as follows:)

EXHIBIT A. LIST OF PERSONNEL OF COMMITTEE ON THE "INDEPENDENT COMPANY"

B. A. Hardey, *Chairman*, president, Independent Petroleum Association of America, Shreveport, La.
Ralph T. Zook, president, Sloan and Zook Company, Bradford, Pa.
Charles F. Roeser, president, Roeser and Pendleton, Inc., Fort Worth, Tex.
C. L. Henderson, president, Western Petroleum Refiners Association, Wichita, Kans.
Harry A. Logan, president, National Petroleum Association, Warren, Pa.
B. L. Majewski, vice president, Deep Rock Oil Corporation, Chicago, Ill.
Lee S. Wescoat, vice president, The Pure Oil Company, Chicago, Ill.
M. H. Robineau, president, Frontier Refining Company, Cheyenne, Wyo.
C. P. Watson, president, Oil Producers' Agency of California, Los Angeles, Calif.
L. L. Aubert, Bankline Oil Company; Los Angeles, Calif.
Maston Nixon, Texas Mid-Continent Oil and Gas Association, % Southern Minerals Corporation, Corpus Christi, Tex.
O. D. Donnell, president, The Ohio Oil Company, Findlay, Ohio.
C. C. Herndon, vice president, Skelly Oil Company, Tulsa, Okla.
E. Buddrus, president, Independent Natural Gas Association, Chicago, Ill.
T. H. Barton, president, Lion Oil Company, El Dorado, Ark.
Frank M. Porter, president, Mid-Continent Oil and Gas Assn., Oklahoma City, Okla.
A. S. Ritchie, D. R. M. Company, Wichita, Kans.
Van S. Welch, Flynn, Welch and Yates, Artesia, N. Mex.
N. W. Shiarella, Miller and Shiarella, Owensboro, Ky.
A. W. Peake, president, Standard Oil Company (Indiana), Chicago, Ill.
K. S. Adams, president, Phillips Petroleum Company, Bartlesville, Okla.
John R. Suman, vice president, Standard Oil Co. (N. J.), New York City.
B. Brewster Jennings, president, Socony-Vacuum Oil Co., New York City.
Merle H. Becker, vice president, W. C. McBride and Company, St. Louis, Mo.
Don T. Andrus, Bradford, Pa.
W. M. Vaughey, Vaughey and Vaughey, Jackson, Miss.
Warwick M. Downing, Denver, Colo.
Vernon F. Taylor, San Antonio, Tex.
Howard J. Whitehill, president, Whitehill Oil Corp., Tulsa, Okla.
Harold B. Fell, executive vice president, Independent Petroleum Association of America, Ardmore, Okla.

EXHIBIT B. OUTLINE OF SUBJECTS AND WITNESSES

1. Opening statement by B. A. Hardey, president, Independent Petroleum Association of America, and chairman of the committee on the independent company.

2. History and character of the independent oil producer, Russell B. Brown, general counsel, Independent Petroleum Association of America, Washington, D. C.

3. The production of oil and gas, O. C. Bailey, Bailey & Trimble, El Dorado, Ark.

a. Secondary recovery, D. T. Andrus, immediate past president, Pennsylvania Grade Crude Oil Association, Bradford, Pa.

b. The conservation of stripper wells, H. B. McClure, president, National Stripper Well Association, Alma, Mich.

4. Taxes, Charles R. Bell, controller, Kerr-McGee Oil Industries, Inc., Oklahoma City, Okla.

5. Costs and Price of Oil, Merle Becker, vice president, W. C. McBride, Inc., St. Louis, Mo.

6. Imports, Wirt Franklin, past president, Independent Petroleum Association of America, Ardmore, Okla.
7. The independent company in the refining of oil, Fayette B. Dow, National Petroleum Association, Western Petroleum Refiners Association, Washington, D. C.
8. Summary, H. B. Fell, executive vice president, Independent Petroleum Association of America, Ardmore, Okla.

(No prepared statement will be presented on the independent company in the marketing of oil products, as the marketers on the committee and other marketers with whom the matter was discussed were of the opinion that marketing problems were not involved in a national oil policy, and for that reason that the Senate Special Committee Investigating Petroleum Resources did not desire to consider such matters. Mr. B. L. Majewski, vice president, Deep Rock Oil Co., Chicago, Ill., will, however, sit with the witnesses and be available to answer any questions pertaining to marketing that may develop or that the members of the Senate Special Committee Investigating Petroleum Resources may desire to ask.)

Senator Moore. We will recess now until 2: 30.

(Whereupon, at 12 o'clock noon, the committee recessed until 2: 30 o'clock p. m. of the same day.)

AFTERNOON SESSION

2: 30 p. m.

The Chairman. We will come to order.

Mr. Brown, are you ready to proceed?

Mr. Brown. I am ready, Mr. Chairman.

STATEMENT OF RUSSELL B. BROWN, GENERAL COUNSEL, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, WASHINGTON, D. C.

Mr. Brown. Mr. Chairman, my name is Russell B. Brown. I am the general counsel of the Independent Petroleum Association of America. In that capacity, I have been in Washington for more than 15 years. I have had the opportunity to see at close range the functioning of the oil producing industry; I lived in one of the centers of oil development for many years and participated in a small way in development in Oklahoma and Texas.

Long association with these producers has heightened the respect which I have always felt for them. They are true pioneers, extending frontiers and improving the new territory they gain. Our form of government was developed by men such as these—men of good will and energy who sought always to dignify the individual, not a ruling class. Men such as these were enabled to exercise their talents because of that form of government. They return to society more than they obtain. The oil producer does more than produce and sell oil. He converts to the use of society a resource which cannot be had without a specialized type of effort.

Since this committee first heard testimony on petroleum resources in June, there have been certain developments which have widened our national perspective. We have finished a great war. It was won through the united effort of all elements of our people and the coupling of their strength with that of our allies. The end of the war was hastened by the perfection of methods of putting to use a hitherto unused form of energy. Overenthusiastic comment at first was to the effect that atomic energy would very soon replace the forms

which have been the principal basis of our industrial life—oil, coal and falling water. Throughout our industrial development these three energy sources have governed. Whatever mechanical motion we see about us today—the locomotive, the automobile, the airplane, the electric fan or the dentist's drill—with few exceptions it is the lump of coal, the unit of petroleum, the drop of water in natural or artificial cascade that is converted into motion-producing power.

Some of those most directly concerned with the development of atomic energy have spoken. They have said that anything beyond the most limited use, and that chiefly in the field of medicine, is years away. One writer of scientific works, when asked to speculate as to the date when the new form of energy would be at work in the peaceful arts suggested that the questioner repeat his question a century hence.

I think we may assume that nothing has occurred to lessen the necessity for the continued existence and operation of the oil industry. Nothing has occurred to lessen the importance of the inquiry which this committee has instituted, nor to change the nature of the inquiry.

The necessity remains for continued exploration and development of domestic oil and gas resources. Such activity contributes to the national security, to the domestic economy and to the consumers' greatest safeguard against high price. That safeguard has always been competitive effort. So long as there is a supply of crude oil available to any who wish to engage in the refining industry, products will be plentiful at prices which exact no undue tribute from the public.

We have been hearing much in the past two or three years concerning "conservation." Many articles have been published in the daily press and in popular magazines. Some have been fair appraisals of our situation. Many others have dwelt on the thought that true conservation consists chiefly in the locking up our own petroleum reserves and relying on foreign oil. I do not know whether this type of article was written in imitation of others which had gone before, or whether there was some central inspiration for all of them. Perhaps it doesn't greatly matter what the reason. What is important is that we try somehow to present the situation in its true light.

Enlightened self-interest had led the oil producing industry to devise conservation methods in the field. A much-quoted expression of an oil man is that "what we waste we lose; what we save, we sell. We save and sell all that we can." In pursuit of this objective, the oil industry has spent millions of dollars, on individual and collective experimental work. The facilities of Federal and State agencies have been supported and encouraged, with money and time, in experimental work of a research nature, with the results being made known to all.

A little more than 14 years ago a conservation conference was held in Colorado Springs. Among those who spoke was a greatly beloved citizen of Wyoming, B. B. Brooks. He was a pioneer in the development of the State's resources—livestock, coal, oil, timber, and others. He had been Governor of his State in a day when Wyoming was new and was becoming known for something other than Indian warfare. In the course of his talk at Colorado Springs, Governor Brooks asserted that the only true philosophy of oil development was first to find the oil, then conserve it. His conception of that next step was to use the resources when found, without waste.

That was the utterance of a man whose wisdom came from a lifetime of achievement. We can conserve only that whose existence is known. It is not conservation to hoard undiscovered reserves of oil. We are disturbed greatly today with expressions of the opposite concept. The advocates of a "conservation" policy which would withhold from use our domestic reserves and rely on oil from South America or the Middle East think only in terms of conserving that which is known—a freezing of reserves at their present level. It is obvious, or should be, to even the most casual observer that there will be no discovery unless the reserves we now have and those which are discovered from time to time are used sufficiently to compensate for their discovery and development. Discovery effort is financed from the sale of petroleum. It is the user of petroleum who finances discovery. A small portion of the proceeds from the sale of 10 gallons of gasoline or a change of motor oil finds its way back to the operator who sells his crude oil and devotes a part of his income to leasing and exploration and to the drilling of wells after the new field is found.

The Allied Nations won the war because there was a supply of petroleum in the United States that was sufficient for all military needs. There was a refining industry on hand to convert the crude oil into the needed products. The refining industry was here because of the wealth of the crude oil resources. The reserves of crude oil had been found and developed in an atmosphere of freedom—freedom of the producer to contract with the landowner for the right to explore and develop; in short, full freedom except to wastefully destroy.

Mr. Fraser. Yet, Mr. Brown, we should not overlook, should we, the contribution made by the Venezuelan fields to the winning of the war?

Mr. Brown. Quite true. Later on, after we had got rid of the first threat of the submarine, we used a very great deal of Venezuelan oil. That is quite true.

(Resuming:) It is the earnest desire of the independent producer that such freedom be maintained. He believes that the soundness of the policy under which this Nation's oil reserves were found and developed was proved during the war just ended. That tools, machinery, ideas, men and resources can be laid away on a shelf for use on some undetermined occasion for some unforeseen emergency seems doubtful. Tools and machines are improved by use. A particular piece of machinery or tool may become worn with use, but the continued use suggests ideas for replacement with better material or improved design.

Ideas and men improve with use and application. Ideas lose their inapplicable phases by use to some definite purpose and become enlarged as their deficiencies become apparent. Men become more skillful and efficient in the type of effort where they are most practiced and experienced.

Materials laid away or stored for certain use furnish little hope for development beyond that use. Had we stored our reserves of petroleum when its use was confined to lighting a lamp it would have been usable for little more than lighting a lamp.

The products of petroleum are now essential to our existence because we have developed a use for them and as use was developed, supply was increased and made more certain. The greatest acceleration in such development and use has been effected by people of the

United States, where the use has been greatest. By use we discover added values in the material we use and the elements necessary to provide proper substitutes for such materials or portions for which we may later have a shortage.

During this war we had a prime illustration of the value of having skilled men and adequate technique available at all times. The Navy found it necessary to draw on its petroleum reserve No. 1 for supplying its ships. It was but a short time following authorization by Congress that every needed skill was put to work at drilling and producing the oil. The Navy possessed no technique of its own but it was able to call upon the latest and best that could be found in the whole world because experience and usage of the arts and skills had brought continued improvement. It found all that was needed close at hand.

In this reference to the naval reserve, I would not be understood to favor the reservation of oil reserves for special purposes such as this as a matter of policy. A strong, vigorous industry is far better guaranty of adequate supply in time of emergency than are blocks of territory here and there, uncertain as to worth and constituting a recurrent problem in policy.

We can go much further back for a distinction between "conservation" and "reservation." St. Matthew reported it. The five-talent and the two-talent men were rewarded and praised for putting to use and increasing the coins they had been given.

The third one was a reservationist; his employer didn't think much of his ability and so gave him one talent. He speedily showed why he had been entrusted with the least, for he "went and digged in the earth, and hid his lord's money"—oil, in the instance here. So even that was taken from him and he was termed the "unprofitable servant."

The implication in some of the assertions that have been made in recent months concerning the need of a national oil policy is that none has heretofore existed. There has been a policy. The Congress has contributed materially to it, partly through affirmative action, partly through refusal to establish unneeded restrictions. Here are some of the elements of the policy which has been formulated:

1. Recognition by Congress of the basic nature of petroleum and natural gas in its tax laws.

2. Recognition by Congress of the depressing effect of unrestricted imports on the domestic industry and the expression of positive policy by placing an excise tax on crude oil and products. (This policy has been weakened through reciprocal trade agreements and the issue may again have to be presented to Congress.)

3. The refusal of Congress to enact laws providing for Federal regulation of production of oil and gas as a conservation measure, a field already occupied by the several States which have production of these resources.

4. Enactment by Congress of the law which forbade the use of interstate means of transportation for oil produced in violation of the laws and regulations of the States.

5. Maintenance of the basic land title system in the United States whereunder the possessor of a fee simple title owns the mineral resources. Exploration and development thus has been kept on the basis of contract between landowner and the oil operator, with no restrictions outside those provided by the State for waste prevention.

6. Open and public hearings by State regulatory agencies on matters of oil and gas field regulations and the provision of right of appeal to the courts.

7. Proper technical assistance in the common interest by such Federal agencies as the Bureau of Mines and the United States Geological Survey, in correlating basic data on oil exploration, recovery, and on trends in supply and demand.

8. The encouragement by the States of development and the avoidance legislatively of repressive measures.

9. The formation and growth of the Interstate Oil Compact, now including 17 States, pledged to the continued development of proper and workable conservation policies.

10. The elasticity of conservation policies of the States to provide for new technical developments in the exploration for and the development of oil and gas resources.

The foregoing are some of the broader aspects of what we may well consider our national oil policy as it has existed. It is my belief that such policy needs little elaboration or change at this time beyond the revision of laws on leasing and development of public lands and assurance that oil imports will not be permitted to weaken our domestic industry.

Mr. FRASER. You do not say anything about our foreign policy here. Is that because you are thinking, when you say "national policy", of a domestic oil policy?

Mr. BROWN. I am thinking of a domestic policy; that is right. [Resuming:]

Through current proposals, which we trust will soon be realized, to amend the laws on development of public lands so as to encourage the risk of capital thereon there would be a needed further enlargement of the national policy.

Whether it would be appropriate for this committee to study the public lands question from the standpoint of departmental confusion, I do not attempt to judge. I would like, however, to call attention to the fact that many agencies now administer lands owned by the Federal Government and that leasing policies differ and that this alone tends to hinder development and exploration.

There are two concepts of such administration by the Federal Government. One is that of a trustee for the true owners—the public. I feel certain that such was the original concept; it was planned that administration should mean the use of the land for the common good, hence on such terms and under such conditions as would promote wise and beneficial use. The other concept is that of a landlord who thinks of himself as the owner and who seeks, for the glory of his department, to exact the highest rentals and bonuses obtainable and who may, on sudden whim, deny usage altogether of large areas.

The situation is even more difficult when we find, as at present, that there is not one landlord but several; some of them who sell surface title to lands retain part of the minerals, producing still further confusion. Part of such retention is by authority of law—which should be reexamined as to its future implications—others are ambitious and recently there was a case of such retention which was plain subterfuge.

HISTORY AND CHARACTER OF THE INDEPENDENT COMPANY

In a description or delineation of the independent in the petroleum industry one cannot be exact because he must speak of numbers. I discuss here the independent producer of oil and gas—others, more intimately acquainted with refining and marketing, will give their analyses of the independents in those divisions.

What is an independent company in the production of oil? You could have many definitions. My definition is a company or individual whose actual management and financial source are substantially the same. The group I attempt to interpret consists of between 19,000 and 20,000 individuals, partnerships, and companies.

The exact number of producers is not known. The Sixteenth Census of the United States—1940—recorded something over 10,000 oil and gas producers, operating some 313,000 wells; since this left more than 60,000 wells unaccounted for, on the basis of trade journal reports for 1939 it may be assumed that several thousand owners were overlooked. The Bureau of the Census said this undoubtedly was the case.

The independent producer has existed since the beginning of the oil producing industry. The successful substitution of petroleum found in drilling for fresh water and brine for whale oil and animal fat candles led a small syndicate to seek greater supply; so the famous Drake well was drilled near Titusville, Pa., in 1859. We date the history of the petroleum industry of the United States from this event.

Independent producers at once became numerous. Men left other occupations to engage in the new dramatic industry. Well drillers brought the technique they had used in the development of water supplies and brine for salt-extraction plans and became oil producers. Capital was attracted from other industries and from financial institutions. The search for oil was quickly extended to Ohio, West Virginia, New York, and Kentucky.

Such success attended the early efforts that price distress, which has plagued the independent ever since, made its appearance. The 1859 oil production is shown by the records to have averaged $20 per barrel; in 1861, it was 52 cents. The production thus early exceeded the demand, which was confined generally to illuminating purposes, and this market was poorly developed until better lamps were made available.

For approximately 12 years following the completion of the Drake well, the industry consisted of hundreds of producers and scores of refiners. It was in 1872 that John D. Rockefeller established his Standard Oil industrial empire, confined chiefly to refining and distributing and for about 40 years this combination of interests, publicly known as the "trust", met no one who offered a successful challenge to its supremacy. Public policy, expressed by the Congress and the courts, ultimately led to the dispersal of the trust into units within designated geographical areas. Whether the growth of companies competitive with such units would have come about through natural expansion of the oil business has been a subject for debate. At any rate, such growth did occur and there are numerous large companies today which began as small independents, some beginning with one phase of the business and adding others.

As successive States were found to contain oil and new fields were opened, new oil men came into the business. Many were recruited locally. Bankers, merchants, landowners, and many in other occupations invested in the development of fields and remained to make that their occupation. There was also an enormous addition to the ranks supplied by those who had been employed by oil producers. A driller would obtain a lease and become a producer on his own account, or a pumper would become the partner of the one who owned a producing lease. A great number of today's oil producers have had the practical experience which comes from the development and operation of oil fields. There are many petroleum geologists who have entered the operating end of oil producing. Drilling contractors have throughout the history of the oil industry in the United States acquired producing interests and several of them are in the front rank of independent producers.

Thus, the independent producing industry is composed of many elements and many diversified talents have been contributed to the whole. Betterment of drilling technique was possible because of the presence of men who had first-hand knowledge of drilling. The independent producer who left the employ of an integrated company to engage in the business for himself brought an economic viewpoint which was shared with other independents in his community and in the trade associations to which he belonged.

We see the evidence now that the influx to the independent producing industry from other occupations is not of the proportion that it was in earlier times. It has become more and more a traditional calling and probably that trend will continue. Sons follow in the footsteps of their fathers, as so do the sons of sons. The industry is just old enough now to include third- as well as second-generation oil producers. Today's oncoming crop of oil producers who succeed to the management of businesses established by their fathers or their grandfathers or who start their own enterprises more and more tend to be technically trained. Many of the young oil producers who were getting their start when war came were technically trained, with school vacations spent in the oil fields where academic knowledge was given clear and definite meaning.

The oil producer had to learn as he went. There was little which the earliest of the producers could adapt from other industries. The rudimentary percussion drilling tools which were used for other drilling at the time were too light for the greater depths at which oil was found. The oil producers of that early day, aided by the small manufacturers of drilling equipment—little more than oversized blacksmith shops—continually improved the design of the tools. He was always seeking ways to do the job better and less expensively.

They learned to do by doing. There was the period of exploration when no technical guidance was to be had. Wildcat wells were drilled on the basis of "creekology" and on "trends." The latter reason is still the basis for a small exploratory activity and, indeed, has resulted in some important discoveries. One of the first prospectuses issued by a company seeking funds to explore—Kentucky had been selected for the venture—contained a report by a mining engineer. His chief reason for believing that oil would be found was the presence of "oxbows" in the Barren River.

Men began to piece together the meager evidence acquired by drilling and supply reasons for the occurrence of oil and gas. Geology was slow in gaining wide acceptance in petroleum; however, that is, geology by that name. It is certain that many of the new areas were opened to production on the basis of the bits of information which, though not dignified by the producer himself as geology, nevertheless formed a studied-out pattern of cause and effect.

Conservation, too, was the concern of oil producers quite early. It was a long while before oilmen sought waste-prevention laws. Chiefly, each was concerned with what happened on his own property. There was again no guidance, no knowledge even of the nature of oil and gas, of their relationship, of the function and character of the energy in the oil reservoirs. The first efforts of a conservation nature were devoted to the repair of damage that had been done. Small-scale use of natural gas as a repressuring medium to increase the recovery of oil on properties whose natural energy had been exhausted was made in Pennsylvania rather early in the industry's history. At a later date, two brothers in southeastern Ohio, who were impressed with the large quantity of apparently unrecoverable oil in the shallow sand fields of their area, developed a systematic method of injecting compressed air into those sands. This became known as the Smith-Dunn process. By chance, it was found in the Bradford field that fresh water would greatly increase the ultimate recovery of oil from a reservoir whose natural energy had been spent. The role of the independent producer in the several methods of what is known as secondary recovery has been a leading one ever since producers began to worry over the vast reserves of oil left in the sands after natural flow in a field had ceased.

These earlier beginnings in secondary recovery have borne great fruit and promise to do so increasingly in the future. In all our calculations of the future petroleum production in the United States, we properly place great emphasis on these methods. The independent producers were pioneers in the development and use of pressure restoration and have been the largest-scale practitioners of increasing recovery by the use of water flooding and compressed air and gas. On many occasions they have purchased stripper-well properties from major companies who were not then adapted to the use of secondary-recovery methods and have produced much oil therefrom. Future oil recoverable by secondary recovery, as economic conditions warrant the substantial capital investments, is estimated to be several billion barrels. A large part of it is under the holdings of independent operators whose hope is that they may have the conditions that will enable them to use the knowledge they have gained.

The CHAIRMAN. How large in proportion?

Mr. BROWN. I think it is estimated fairly accurately at about 10 percent.

Mr. FRANKLIN. It is more nearly 20 percent.

Mr. BROWN. Mr. Franklin says 20 percent. I have not an accurate statement of that.

Senator MOORE. What do you mean?

The CHAIRMAN. What proportion of the holdings which are being operated by secondary-recovery methods are controlled by independent operators?

Mr. Brown. I misunderstood your question. Your question is what proportion of the secondary-recovery operations are being handled by the independents?

The Chairman. Yes.

Mr. Brown. I have not an accurate estimate of that, but that runs well over 50 percent.

The Chairman. To what were you referring?

Mr. Brown. I thought you meant what proportion of the reserves would lend themselves to secondary-recovery operations.

The Chairman. I see. Then, you want the committee to understand that the independent producer does more in the way of secondary-recovery production than the major company?

Mr. Brown. That is my impression. Mr. Andrus is here, and I would like to ask him whether he has an expression on that.

Mr. Andrus. I would say very much more of the development, by the secondary operation, has been by the small independents.

Captain Franchot. At the present time it depends where you classify the South Penn Oil Co. If you classify the South Penn Oil Co. as an independent, I would say there is pretty nearly 100 percent.

Mr. Andrus. Yes.

Captain Franchot. If you do not classify them as an independent, you would be down to about 75 percent. That is a matter of classification.

Mr. Fraser. Why is that, Mr. Brown?

Mr. Brown. The reason I just tried to explained, above, that the larger companies are primarily equipped for active, intensive operation, and they go on to the next field. They get a field down until it is low, then they go on to fields of flush production, because it is cheaper production. That has been historically true. Then, they can make a better profit. The secondary operation is a small man's job, because he sits down on the job, pretty close to it, and has always been such. That is growing now into the independents' field.

Mr. Fraser. That is, he comes along and eats what is left?

Mr. Brown. That is right. Those are the gleaners.

Captain Franchot. I think that is also true, Mr. Brown, due to the fact that the independents have had more vision in this particular phase of the oil business.

Mr. Brown. They had more initiative.

Captain Franchot. The Bradford field is an outstanding illustration of secondary recovery. I know that the majors had their chance, and just turned it down. And men resigned from the major companies to go into the secondary recovery, after having given the majors their opportunity. Isn't that so, Mr. Andrus?

Mr. Andrus. Very much so.

Captain Franchot. I am referring to Clayton Dorn and his son, Forrest Dorn, for example.

Mr. Brown. I have known of that situation in other areas, also.

The Chairman. Can you give us a list of properties which have been sold by the majors to independents for secondary recovery?

Mr. Brown. Mr. Andrus has a paper on that.

I wonder, Mr. Andrus, whether you go into that phase?

Mr. Andrus. I have not gone into that angle of it. We will be glad to look it up.

The CHAIRMAN. I think it is important, because all of the evidence which I have seen tends to show that a greater and greater portion of the known oil reserves of the United States is to be found in the hands of the majors. Now, if the majors, after flush production has passed, or production at low cost, or when production reaches the secondary stage, are disposing of properties to independents for secondary recovery, that is a very important thing to know. If they are not disposing of fields which have become ripe for secondary recovery, but are holding them, and they are not being produced, that is an important fact to know, likewise. But we start from the basic fact that the ownership of reserves in the United States in the hands of the so-called major companies is greater now than it ever has been in history.

Mr. BROWN. That is true.

The CHAIRMAN. So that this matter of the ownership and handling of the reserves is to my mind one of the most important questions to be taken into consideration when you try to assess the future of the independents.

Mr. BROWN. Suppose we endeavor, then, Mr. Andrus, to get as nearly as we can an exact statement of that.

Mr. HARDEY. Mr. Chairman, do you mind my interjecting an observation into this in this regard?

The CHAIRMAN. You know that we are trying to invite the interjection of observations. You may proceed, by all means.

Mr. HARDEY. From my experience out in my country, concerning the sale of these leases to independents, I find it is brought about largely in this way: By isolated leases, a man will come in and buy a half dozen wells. This man and his son and his son-in-law will probably operate it, and all the overhead is in the family. By doing this, he can probably operate an isolated lease profitably, where a major company could not do it in connection with its other operations. That has been my observation; that happens in a great many fields. It is particularly true in stripper fields of submarginal production, where a major company cannot send a roustabout gang over here two or three miles from its headquarters to pull rods on a lease. But a man who probably worked for that company can take over that well and pay for it out of its production on a nominal investment, and operate it in the family, where all the overhead is in the family; he can at least make a living out of it.

The CHAIRMAN. I think it will be very valuable to the committee to have as full a picture drawn as you can of that.

Mr. BROWN. We will endeavor to do that. That does not necessarily apply to secondary recovery operations, does it?

Mr. HARDEY. No.

Captain FRANCHOT. The interesting thing about secondary recovery is that before the discovery of the possibilities of secondary recovery in the old Bradford Field, many properties were sold to employees and men who had been only roustabouts or pumpers took over those valuable properties. Then, when secondary recovery came along, all these men became wealthy. I can remember my father's selling a piece of property in 1913 or 1914, and 5 years later the men who had just been field men and had acquired that property—one of them was

an ex-driller who had become too old to drill—became very wealthy because of the secondary recovery process that came in.

Mr. Fell. It might be interesting, too, Mr. Chairman, to know that a lot of the water-flood operators have now gone into Kansas. In eastern Kansas they are now developing water-flood operations in old, settled fields in which production had declined to a very nominal amount. They have increased the recovery there very greatly. There have been a great many of those operations, have there not, Mr. Andrus?

Mr. Andrus. That is right.

Mr. Fell. Most of them operating there came from Oklahoma, but a good many came from Pennsylvania.

The Chairman. I gather that Mr. Andrus will endeavor to develop this subject.

Mr. Brown (resuming): Many contributions of ideas, effort, and money have been made by independents in furtherance of conservation. Research work has been financed and the result made available to the whole industry. The program now under way in eastern fields, where technical institutions are supported financially in their work on fundamental problems affecting the recovery of petroleum from natural reservoirs, is one evidence of the creative interest oil producers have always taken in a subject that is in its essence the highest type of conservation; the greatest possible extraction, at the lowest possible cost, of petroleum so as to make it available when and where needed.

It is a matter of pride with independent producers that they have sponsored and encouraged the enactment of State laws to prevent waste of oil and gas. Such attitude has at times been opposed to their own immediate financial interests. Systematic, orderly withdrawal of oil from a reservoir, such as has prevailed in recent years in most of the States, lengthened the "pay out" time on a new well. It added to the financial burden of such well, but the operator realizing that he might expect to gain in the long run through the greater number of barrels of oil that would be produced ultimately, was willing to prolong the period of recovery of investment.

I would not like to leave the impression that I am unaware of the many contributions which executives, engineers, and other technical men of the large oil companies have been making to the common knowledge of how best to operate oil and gas fields. Generally they have made large expenditures on their technical departments and have maintained large staffs. Any new information thus obtained which would be of general benefit has been freely shared by them, just as the smaller operators in their pioneer work have made known their results. The producing industry has been singularly free of restrictions created by patents. Generally, it has been only mechanical and apparatus patents which have been applied for by those who brought forth something new or improved. The traditional willingness of oil producers, large and small, to share new information on producing practices has enabled all parts of the oil-producing country to achieve greater efficiency. Some new method evolved in West Virginia may have its application in California, or the reverse; within the limits of their income, producers are ever applying the best methods they can find.

It is in the field of discovery of new reserves that the independent producer has been best known. This function continues to be all-important. Discoveries must continue if the domestic oil industry is to remain important in the national economy and national security. Our conservation program itself has made it necessary to maintain larger reserves than formerly, hence, as needs increase, greater backlogs of reserves must be on hand.

The independents have always led in number of wells drilled and in number of wildcats drilled. They have led in number of new pools found. This might seem to be a natural condition, in view of the numbers of operators involved. Whatever reasoning may be indulged in, it is the fact that the independents have ever been the pioneers of the industry in finding the new fields. How thoroughly that is true was shown recently (July 30) by the Oil Weekly, of Houston, Tex., in a tabulation of the activities of 32 larger companies, compared to the "rest of industry."

The report showed that the 32 large companies in the first 6 months of 1945 drilled 31.9 percent of all wells completed. They drilled 29.5 percent of all the wildcats in that period. They completed 38.2 percent of all the successful, or productive, wildcats.

Thus, the independents—the "rest of industry"—completed 68.1 percent of all wells drilled, but in exploratory effort they went higher, drilling 70.5 percent. They completed 61.8 percent of the productive wildcat or exploratory wells and in this respect a decline is shown for some compilations made for earlier years, these revealing that independents normally completed from 70 to 76 percent of the successful wildcat wells. The drop in this respect may have several explanations, or an explanation which is a combination of several reasons. The price of oil certainly is one of them. Another is the withdrawal from the industry of a number of independents who were formerly active as wildcatters but who sold their properties to the larger companies.

The Chairman. Do you know how the figures for 1945, as reported by the Oil Weekly, compare with conditions in previous years?

Mr. Brown. I think I suggested there that they show a drop from 70 percent—76 percent—to 61 percent.

The Chairman. Yes.

Mr. Brown. I have seen several estimates, and that is about as nearly accurate, I believe, as any expression I have seen. By that I mean that it about as closely conforms to my general thinking on it as any other estimate.

The Chairman. That means by and large the proportion of wells drilled by the independents is declining?

Mr. Brown. That is right; I think that is true.

The Chairman. Of course that would be true if, as Mr. Hardey testified this morning, the number of independents who are operating is gradually decreasing, also.

Mr. Brown. That has been true. From 1939 to the last figures that we have on that, which is through 1943, we lost about 32 percent. That is a net loss of the corporations, to say nothing about the individuals. And I think the individuals would run along pretty much the same percentage. The Department of Commerce put out figures for 1944, which is later than that, of companies going out of business

in the mining industry, and they tell me that the larger percentage of that is oil-producing companies. They showed a loss of about 500 companies in the last quarter of 1944. So the trend apparently is continuing on down. [Resuming:]

The downward trend of successful wildcatting conducted by independents would indicate that their superior numbers do not necessarily mean that they will continue to exert the effort they have throughout the history of the industry. Could this function—exploration—be assumed by the large companies as fully as would be necessary to make the discoveries the Nation needs? By way of comment on that, I would like to quote from a statement made by a member of your committee to the House Subcommittee on Petroleum, in 1940. This member, then an independent oil producer, said:

> The reason why they (the independents) lead in discovery is quite simple. They lack the inhibitions that surround the large companies. Put any man in charge of the affairs of a large corporation, and if he is worthy of the trust imposed upon him by the stockholders, he becomes conservative and cautious. He takes as few chances as possible. He is such a man as you would want to manage your own investment.
>
> The independent is not so bound. He may have a few stockholders, but they have invested with a full understanding that there are risks in the partnership. He has no stocks listed on the exchange and no bonds. He is free to go ahead and finance in any legal way he can, any venture he decides to engage in. He uses the scientific aid that is available, but he may proceed in disregard of the scientific findings, and many a valuable addition has been made to the oil reserves of the Nation because some independent drilled on the basis of a "hunch" * * *

Is it any wonder that a man who is capable of saying that back in 1940 would later be elevated to the United States Senate?

The CHAIRMAN. Let us have a little identification here, Mr. Brown. I take it you are referring to Senator Moore.

Mr. BROWN. I am referring to Senator Moore, to a very splendid statement that he made.

The CHAIRMAN. You desire the committee to understand that you agree with his statement?

Mr. BROWN. I agree with his statement, and have a great deal of respect for his experience. The great East Texas oil field was found from such fumbling around as is described. It was a good job, though. (Resuming:)

I believe that the foregoing quotation expresses very well the reason that an independent is more venturesome than is the large company. It is a difficult thing to face the stockholders and try to explain large dry-hole losses. Someone is certain to be resentful and scold the official who was responsible.

To the quotation given I would add that there is another attribute which the smaller man in the producing industry must have. That is resourcefulness. He lacks the advantage of a large-acreage position. He cannot maintain under lease many "plays" or "spreads" at any one time, as the rentals and other expenses would be a greater burden than he could carry. In borrowing money he is limited to his reserves of oil and gas in the ground and physical equipment above ground, generally, the difference between the estimated future price of such underground reserves and the cost of producing them. His wildcat prospects are never negotiable risks in the ordinary channels of financing. His resourcefulness comes into play outside such channels. He

may raise the money to drill a wildcat well by selling acreage in his block, by inducing other operators, including large companies, to share the risk of the venture by contribution of "dry-hole money" or "bottom-hole money," thus giving them a test of their acreage located on the same structure, or he may develop a unitized operation of the entire block, beginning with the initial test well. The combinations used in financing exploratory drilling are many and varied and they are reduced to no set formula but take such form as the particular conditions require. Out of such exertion of resourcefulness comes discoveries of new reserves, also the dry-hole failures which far outnumber the successful ventures.

Despite the advances in scientific aids to exploration, the fact is that the final answer is still the drilling bit. Scientific criteria for recognition of structure which should be oil bearing are becoming more exact, but an expensive hole must always be drilled to test the worth of the technical findings. The percentage of failures is still very high—depressingly so to one not inured through experience.

What then will keep the independent producer going? What is needed to insure a continuance of the effort which "paid off" during the Nation's most severe test?

Principally, there is needed more general recognition of the natural hazards of exploration for oil and gas. When the focus of attention has been moved from the occasional "killing" made by an oil producer to the great majority of good producers whose returns, year in and year out, are modest, that recognition and better understanding will come and the consideration due this industry will be accorded. The independent producer seeks no unusual advantages. He does want an even break in matters of taxation, compensatory price for his oil, and freedom from restrictions which retard his effort.

In respect to the latter, it should be remembered that the burden of compliance with regulations usually falls on the one man who is at the head of an independent producing business. Large companies are equipped to distribute the burden. They have their tax, transportation, legal, personnel and employment and other departments, and while they may not like regulation any better than does the smallest operator, the physical task of complying with regulation is made easier through departmentalization. The small or the medium-sized producer must supervise and frequently perform these functions himself and this at the expense of more important things.

There is much work to be done in the unexplored areas of the United States where geological reasons for the formation and accumulation of oil and gas are not adverse are highly impressive. It would be lack of incentive and not of prospects that would bring realization of the predictions of scarcity of oil in our States.

I have attempted to give something of the history and the character of the independent producer of petroleum and natural gas, subject to the limitations on the time that I might claim.

The Chairman. You do not intend to go into the possibilities of the unexplored areas in this presentation?

Mr. Brown. I have not explored it. Probably some of the papers will go into that a little more fully than I will. But I will be glad to supplement my paper, in the event they do not, with a rather comprehensive study that has been made by the petroleum geologists on that very subject.

The CHAIRMAN. Our hearing on new sources of petroleum in the United States is now, I think, on the press at the Government Printing Office.

Mr. BROWN. That is what I was thinking.

The CHAIRMAN. I put a notice in the Congressional Record that it would be available for purchase at the Office of the Superintendent of Documents for 75 cents a volume. It contains, as you know, the latest information on possible sources of oil in the United States.

Mr. BROWN. Yes. I thought that was very complete, and I was impressed with Mr. Cheney's presentation on that. He is now the president of the American Association of Petroleum Geologists. I was also impressed with Mr. Pew's expression, and that of others.

The CHAIRMAN. It has occurred to me that, sometime during the hearing, someone might want to develop the effect upon the industry of the character of activity required in the search for new deposits.

Mr. BROWN. I think we have that developed in one of the papers. It is extremely important, because it is shrinking as times goes on; and I hope we will develop that to your satisfaction. (Resuming:)

There is another chapter in this story—this attempt to compress certain phases of 86 years into an hour's time. That chapter is the development of laws on exploration, development, and production—that which we refer to generally as conservation laws.

These laws have been the natural outgrowth of the experience of the producer. He began with nothing to guide him. He was dealing with substances the nature of which was unknown to him. No technical guidance was available. He knew nothing at the outset of many possible uses for petroleum besides that of illumination and lubrication.

The first legislation in the few early-day oil-producing States was designed to abate common nuisances, such as the pollution of fresh-water-bearing sands and the drowning of oil sands with water from upper sands found in the well. Requirements for properly casing wells and for plugging them when abandoned were written into the earliest statutes dealing with development.

In the beginning, there seemed to be no reason to expect that laws would be needed other than those which applied to other industries. Experience brought realization of the need, first, of laws to prevent pollution of oil and gas and water-bearing formations. Not long after this, other legislative needs arose as additional problems became apparent. In areas where oil and gas discoveries were made, operators soon became aware of the fact that surface property lines did not effect subsurface property reactions. As an early Pennsylvania operator retorted, when told that the tiny strip of ground he had leased was too narrow for a proper well location, "I know it isn't very wide on top, but it gets wider as it goes down." The operator of a property obtained the amount of oil and gas that he could produce through his wells, whether that amount was originally beneath his property or not. Often one operator would drain the lease of another. Oil and gas are migratory within a given pool. Thus, community disputes arose which began getting into the courts. Varying results by way of adjustment were reached until finally one court, searching for an applicable precedent, seized upon the rule governing the taking of wild animals. Oil and gas was "ferae naturae," and belonged to the one who could seize and hold them—the rule of capture. Under

this rule, the operator then began to drill as near his property line as he could, and by way of protecting himself the owner of the abutting property moved to the edge of his lease and directly opposite the neighbor's well. In effect, they made a partial trade of oil and gas and the net result was to create confusion and waste through the race to reach the sand.

The condition that prevailed was abhorrent to all, but for a time there was seemingly no escape. It was illustrated by an occurrence in one of the new fields in southeastern Ohio—if you do not mind another story. A producing company received a telegram from its superintendent who was in the field. He wired: "Nos. 3 and 4 are in. No. 3 flowing 500 barrels, No. 4 little better. Both flowing on the ground. Rush timbers for No. 5."

Line fights continued for some time in the earlier development. Courts recognized the principle of offsetting producing wells, and penalties for failure to protect the landowner against loss through drainage were assessed; sometimes leases were forfeited. The offset requirement first recognized by the courts as implied covenants later became a part of the lease contract and remains there to this day. Operators, however, sought a more rational way of developing their properties. Local industry committees gave thought to the subject, working agreements were formed, and the custom arose of respecting each other's property lines by drilling no nearer than some agreed minimum distance. Orderly patterns of development thus arose—a well to each 5 acres, or 10 acres—uniformly located. Haste and its attendant waste were thus reduced. In time, recognition of well spacing was given by State legislatures in protection of industry custom; generally, such legislation has been written to give authority to State oil and gas regulatory bodies to make rules on well spacing. No arbitrary spacing is suitable to all fields, hence the States have wisely refrained from writing such abitraries into law.

I am not attempting to develop these points chronologically; indeed, that cannot be done. It is difficult to establish the time that some fundamental truth first crossed the mind of an oil producer and it is just as difficult, in many instances, to learn who first thought of a given truth.

Mr. Fraser. Of course, that is true not only of oil producers.

Mr. Brown. I think that is quite true. Philosophies sometimes develop quite apart.

The Chairman. Yes; I am quite sure you would not want to have it appear that you thought that oil producers were slower to learn than others.

Mr. Brown. No. Probably the same philosophy developed in other sections in other industries, too.

There have been instances where someone in the oil and gas industries hit upon an important method and obtained a patent, only to learn, perhaps years later, that someone had preceded him in a local and unpublicized application of the same method. So, assignment of credit is a thing that one avoids unless he has abundant proof. We do not know who first began to think of natural reservoir energy and its relation to the ultimate recovery of oil from a pool, or who first decided that unrestricted flow of a well in its early stages exhausted energy rapidly and reduced the final amount of oil to be

recovered. Someone did, and in time the idea spread and was translated into practice.

Oil in its original state has been provided with two principal means of propulsion through the sand. One is the gas, in solution in the oil or in a free state—sometimes in both forms in a given field; invariably, there is some gas in solution in every field and this gas comes out of solution with release of pressure through penetration of the sand by drilling. The other form of energy is hydrostatic pressure. In either instance, too rapid release of pressure reduces unduly the motive force which moves the oil through the sandstone or limestone bed which is its natural container. The well of large production in its initial stage soon becomes a pumper and prematurely a stripper under conditions of open flow. Properly handled, the native force is the primary energy for a long time; improperly handled, much of the oil content is left behind to be recovered in small amounts per well each day, if at all, or in larger amounts through expensive secondary recovery methods. Today's trend in producing practice is to minimize the necessity of repressuring in an oil pool with water or gas or compressed air by operating the new fields in such manner as to use the natural energy effectively.

Acceptance of the knowledge concerning the function of reservoir energy came more slowly in the industry than did the reform in drilling practices and the correction of well spacing. There are still bad practices in development—the town-lot drilling evil has not been entirely abated. Some critics are given to the use of these occasional town-lot orgies as representative of the industry, forgetting that for every such field dozens are developed quietly, sanely and without waste. Even the town-lot overdrilling is disappearing; cities and towns are now likely to require that town lots be communitized by the owners to form a reasonable drilling block when an oil or gas field is found to extend to the town-site acreage. The oil industry itself lends support to the enactment of ordinances on this question.

It was just about a quarter century ago that the industry began to accept, fairly widely, the theories concerning function and use of reservoir energy. A new type of technical man made his appearance in the industry in response to such acceptance. He was christened production engineer, petroleum production engineer, and finally, as he came to be known, petroleum engineer—the latter, I think, is now generally accepted to mean one who devotes his time to oil and gas development and producing. Much of the work of the petroleum engineer has been to study field results and to think and plan in terms of getting the most oil out of the reservoirs. This naturally includes, as a major phase, the better utilization of the energy native to the oil reservoir.

There were certain barriers to the reform of producing practices—the abandonment of the old "gusher" days. One was the attitude of land and royalty owners. I do not imply that all the blame was theirs, or even a major part of it; custom is hard to change and new theory gains adherents slowly. The ending of "line fights" in drilling was simpler, for there it was an above-ground condition that could be seen and appraised in terms of dollars. Reservoir pressure and energy were underground, and at the outset no instruments existed for their measurement. But land and royalty owners did come around

more slowly than did producers to the thought that it was better to get more oil from the pool even though more time was required. Many preferred a thousand dollars quickly to five times that much at a more leisurely rate. That attitude is not ended yet. It is yielding to education in this matter.

Over a period of some years small, localized applications of the theory of restricting flow of wells so as to make better use of natural energy had been conducted. Usually, they were in new fields under either single ownership or where but two or three operators were in full possession of the pool. Agreement on operating practice became progressively difficult as the number of operators in a single pool increased. It was easier for 2 to decide on a course than for 50 or 100.

Then something happened which amounted to a big-scale field experiment. The Seminole, Okla., field was discovered in late 1926. This pool, a large one itself, paced the discovery of others in what is known as the General Seminole district. In rapid succession, the Searight, Earlsboro, Bowlegs, and Little River pools were discovered. Lease ownership was widely diffused, hence everybody rushed materials in to drill in compliance with lease contracts. The production potential mounted far beyond pipe-line outlets. It was necessary to restrict flow in conformity with plans worked out by committees organized by the operators. There was an old but little-used statute in Oklahoma which provided for ratable takings of oil by pipe lines serving a common source of supply—a pool. It had imperfections, later corrected in the light of experience, but it served to shore up the efforts of the operators. A field umpire was appointed and given authority by the Oklahoma Corporation Commission to act for that commission. The umpire who was appointed was an independent producer who owned no property in the Seminole field. Many of the members of the advisory committee were independents.

Proration, or ratable taking, had been used for brief periods previously to meet conditions of production in excess of physical facilities to carry the oil away. Seminole, however, was the first large application of proration over a long period.

Looked upon as a necessity to avoid the storage of multiple millions of barrels of oil—a program which the industry had learned entailed great waste—it began to dawn upon the operators in a few months that proration was also a conservation measure of great importance. Wells flowed long beyond the time when under wide-open flow they would have "died" and been put to pumping. Close observers began to note that recovery of oil from the fields promised to run much higher than the normal for fields of comparable sand conditions.

In short, the necessity of proration wrought a revolution within the producing industry. The same necessity arose in many other places and in other States soon after Seminole. Favorable crude-oil prices immediately following the first World War set in motion a wave of wildcatting whose effects lingered long after resultant discoveries plus greater imports had brought lower price levels. Texas, Kansas, Arkansas, Louisiana, California, New Mexico, and other States in lesser degree were blessed with new discoveries. While some of these States did not have ratable taking laws, the ratable taking principle was applied to the new fields as they came along, and since

the Seminole discovery the old unrestricted-flow principle, with few exceptions, has been discarded. The value of conserving energy through restriction of flow has been recognized for so long that the average producer today would nearly as soon set fire to his well as to flow it "wide open" when it is new.

It is conservation of resources to use energy wisely. Long ago certain colleges and universities with funds to invest began to buy producing oil royalties but restricted purchases to fields under proration or, as they viewed it, conservation practices.

Perhaps the most conspicuous example of the value of using natural energy effectively is the East Texas field; it is conspicuous because it is the largest in the United States. The gas factor in the field is not large. It is a water-drive field. After much trial and error operating practices were stabilized, and as a result the majority of the wells in the field still flow naturally. The field is over 15 years old. Production has been limited to that amount that would make use of the natural energy. The expectancy of final production is at least double the early estimates which were based on the recovery under large daily flow per well. Not only is the energy being conserved through restriction of flow; it is being restored every day by putting back into the producing sand the considerable volume of salt water that is produced with the oil in certain parts of the huge field.

I have dwelt at this length on the energy factor in oil production because it is so integral a part of the State legislation in recent years. Conservation has been a natural development. Experience has been the teacher. State after State has enacted new laws or revised older ones to reflect the wisdom that the industry has acquired. We are frequently impressed with the volume of testimony that is taken by congressional committees. Being national in character, it is usually news. Less attention is given to the testimony that has been heard by State legislative committees and State regulatory bodies on every conceivable phase of oil and gas field development and operation, all in furtherance of conservation of these resources. How to drill and complete wells, how to case them, how to produce them so as to utilize energy in the formations—these and many other phases of modern operation have been discussed, argued, and debated. The records of the almost incalculable number of hearings that have been held exist in the State capitals where oil and gas are produced—and in the courts, too, for there has been much litigation. Conservation in the oil and gas industries was never static nor was it thrust upon the industries as an ukase from high authority. It grew and developed and it is still growing and developing as the results from field and laboratory experiments become known.

While crude petroleum differs greatly in character in the various fields and States, in general there are some of the important qualities present in varying amounts in all crudes. By nature and by practice they reach a common industrial stream. The market for one type of crude petroleum is affected by the market for others. Wasteful production in one State not only affects the consumer of petroleum products throughout the Nation but is of direct concern to the individual producer and to the States in which oil is produced.

To insure a better understanding of the development of conservation laws and to coordinate this information so as to obtain the greatest

good becomes the urge and desire of all producers, the governments of the oil-producing States, and, finally, the consuming public. Because oil is not produced in a majority of the States, first responsibility for conservation rests with the producing States. To coordinate their efforts and their knowledge, these States have availed themselves of a wise Federal constitutional provision and have formed, with the consent of Congress, the Interstate Oil Compact.

In support and aid of the States' conservation programs, and the enforcement of their laws and regulations, Congress passed the so-called hot oil or Connally law, prohibiting the use of interstate commerce transportation for oil produced in violation of State laws and regulations. Effective use of this law was made at a critical time in the recent past.

More than one factor is taken into account by the States in determining the proper rate of production from their fields. Engineering determinations of several kinds are important bases for the orders that are written, and market demand is another. Production substantially above market demand induces waste. This thought has been applied in recent years to agriculture; we depart from the parallel when we consider that in agriculture it is economic waste prevention that is sought in attempting to regulate production to market demand, while in oil and gas it is physical waste also that we seek to avoid.

Mr. Fraser. You speak of conservation laws. How about the enforcement of those conservation laws? Do you consider it satisfactory throughout the country?

Mr. Brown. No more than any other law. I do think it is very, very helpful. There are bound to be infractions of it. There are many places where it is not enforced as I would want it enforced, but it is often enforced as those that are closer to it might think was proper. I think generally the conservation laws are fairly well subscribed to. In some places we do not have enough laws, probably, and they are not effective.

The Chairman. This has been a very interesting discussion of the conservation problem, Mr. Brown. I was particularly impressed by the statement with which you began and to which you returned toward the end, namely, that conservation laws have not been imposed upon the industry but are the natural outgrowth of the experience of the industry itself. I understood you correctly, did I not?

Mr. Brown. That is right.

The Chairman. In other words, the conservation laws we now have, you regard to be laws which experience in the industry indicates are wise and in the public interest as well as in the interest of the producer?

Mr. Brown. Certainly, that is generally true, yes.

The Chairman. Do you think that conservation laws will require any improvement? Are there further steps to come?

Mr. Brown. I think there is constant changing in that, as we learn a little more. Naturally, legislation lags behind information. That grows out of experience. It takes a while to get general appreciation of some newly discovered theory. So, as it takes a little while for that effect, it is always lagging a little behind.

The Chairman. How far behind are we lagging now? That is the question.

Mr. Brown. I do not know. It would be difficult to make a quick survey of that. Some States, for instance, are not as far advanced in the application of their laws as we have observed in other States.

Take the conservation efforts of the State of Arkansas. I think that that law in its enforcement is one of the very highest examples of good conservation. It is developing very rapidly in New Mexico, too. A good conservation system is on its way there. Other States are not developing as rapidly. You have to educate legislators as you go along, too.

The Chairman. You have indicated a history of conservation laws; but you have not made any recommendation as to what further steps, if any, should be taken.

Mr. Brown. That is true; and since my paper was confined to the history, I think probably we will, before we close this, I hope, supplement it with some suggestions that may be of benefit.

The Chairman. Let me ask you another question, then. Are you conscious of any disagreement in the industry with the conclusions which you have expressed with respect to conservation laws?

Mr. Brown. Yes; there are some. I should not say that they are far in the minority, but they are in the minority. There are quite a few who still hold to the philosophy that when they discover oil they ought to have the right to develop it as rapidly as they please. We find some of those particularly in a new State, where they have never had the chance of getting the oil. We have had an example of it in some States where they never did develop it very rapidly. That is true.

The Chairman. And what is the feeling in the industry with respect to the equitable enforcement of conservation laws as, for example, the proration laws?

Mr. Brown. It varies. In some States there will be rather general acceptance. I think that is usually where there is a commission that is responsive and studies it. In other States there is a very definite feeling on the part of some that proration is used like any law, improperly at times, to give someone an advantage. We hear that expression. I do not think that is far from their views on other laws, but it certainly is very definite, in the oil industry, at times.

Mr. Jacobsen. Mr. Chairman.

The Chairman. Mr. Jacobsen.

Mr. Jacobsen. I think, and I believe Mr. Brown will agree with me, that it can be said generally that the enforcement of the State proration laws is improving all over. In other words, the general enforcement today is certainly better than it was 6 or 7 years ago. Not only is enforcement gradually getting better, but the laws themselves are getting better.

I think, with respect to your request for recommendations, that while we might perhaps think of some specific recommendations to make, the movement is so definitely toward improvement that, even if nothing is done in respect to specific recommendations, the enforcement and the laws themselves will tend to become better. Would you agree, Mr. Brown?

Mr. Brown. I agree with that, particularly in the light of a better understanding of good enforcement.

Mr. Jacobsen. Quite.

Mr. Brown. We have tried to bring to this committee a paper on that very question. Mr. Bailey will present that phase of it, which I think will be enlightening.

The Chairman. And this paper will, I suppose, discuss the conservation of oil in the United States as a means of increasing our supply in relation to the existence of practically untapped sources of petroleum in other parts of the world, whereas here in the United States we have conducted such an intensive exploration of the possibilities?

Mr. Brown. That is right. I think out of that paper will come a better understanding of the possibilities of doing the thing of which you speak, that is, making the best use of what we have, to get the most out of it.

Mr. Jacobsen. Mr. Chairman, I would like to make just this very small point, but it is of some importance in connection with this matter. A good many of the technological advances that have been made with regard to the production of oil would not be possible of accomplishment if we did not have the proration laws.

Mr. Brown. That is true.

The Chairman. Thank you very much.

You may proceed, Mr. Brown.

Mr. Brown. The only crude petroleum used in the United States that is free of regulation by the United States of some kind is the oil produced outside the United States. The Congress in the exercise of its power over imports has made an effort to prevent this oil from destroying our conservation program in the United States. The State Department has not fully understood the necessity of the program, or for some other reason has threatened the small amount of control remaining from the provision made by Congress. It is felt that when that Department understands the significance as fully as does the oil operator, the State Governments, and the Congress, it, too, will assist in the important effort to fully and properly develop and conserve our own resources.

The independent producer is confused and somewhat alarmed by the idea that has current expression in the statement, "the United States must become an oil-importing nation." We have long imported oil into the United States. Does this new thought imply that we must become a nation whose first reliance is on imported oil?

We have always recognized that oil imports were at times necessary to supplement our own supplies. We have no quarrel with such program. What we do object to is that oil should be imported in such manner as to hamper the search for and development of our own reserves and to force wasteful methods of production, making us eventually dependent upon some foreign source of supply for our own needs. Particularly do we object that such source of supply should be so centralized as to destroy our own industry and then exact toll from our every user of petroleum products.

The Chairman. Now, I have no hesitation in saying that it has long been my personal view that a fundamental principle of the national oil policy should be to prevent the United States and its industries from becoming dependent upon foreign sources of oil, because no nation can be an industrial leader if it loses its own domestic sources of its principal fuel.

Mr. Brown. I am glad to hear that, and I think I have seen evidence from your past activity.

During this past war, we had an outstanding example of the condition we might have been in had we not been pretty well self-sustaining in position.

Mr. Fraser. By what means would you insure that only enough came in as a supplement, and not so much as to disturb domestic conditions?

Mr. Brown. That presents a problem that requires some additional study. Under the old method, it was one of handling through tariffs. I think in the oil industry it is largely a matter of congressional intent. The importing of oil comes from relatively few companies. They are sensitive to national policy. They are conscious of the welfare of their own country, as well as their own industry. I think when the Government, through proper channels, expresses a policy on importing oil, we will have little trouble getting that policy recognized by those importers.

Mr. Fraser. Without statute?

Mr. Brown. We may need some supplemental statutes. I would not say entirely without them. But I think it is entirely a matter of congressional policy and intent. There will be some difficulties in that, but I have observed that the very minute the Government begins to show a desire to relax the import restrictions, more imports come in; not that the amount of import duty has changed enough to make that, but because they feel that the Government is encouraging them to import.

Now, when we work out a policy—and to that end I want to call this committee's attention to a step our association has taken; and in answer to your question, our association has by resolution requested the calling of a conference by the State Department. We have asked them to call into that conference the oil-producing State officials, the representatives of the domestic producers in the United States, the different divisions of the Federal Government which are concerned with petroleum policy, and the importing companies; where we might sit down with the State Department and there work out a program.

We cite the State Department for the reason that heretofore, as I have stated, imports were regulated somewhat by the imposition of taxes and tariffs. That responsibility now rests largely with the State Department, and we have felt that if they had all the elements of the industry and the State and Federal agencies concerned in one conference, we could there develop information through which the State Department could handle the import question much better.

Has that answered your question? That will be fully covered by Mr. Franklin, who is discussing the import question. But I am trying to answer your question immediately.

Mr. Fraser. That policy, then, would emanate not from the Congress but from the State Department?

Mr. Brown. I am not sure. I think once the policy is agreed to, it would probably require congressional sanction and approval.

The Chairman. When was that request for a conference made?

Mr. Brown. That was made, I think, in February, or perhaps a little earlier. I believe it was January. Copies were sent out to you. I believe you probably have it here.

The Chairman. But I want it in the record. That is why I am asking the question.

Mr. BROWN. Yes. If Mr. Franklin does not put that in, we will introduce that. I feel that that is, of course, a very serious question, and we hope you will recognize it as such.

The CHAIRMAN. It is, of course, a serious question, and I am sure the representatives of the State Department will take note of it and will be prepared, perhaps, to discuss it when the time comes.

Mr. BROWN. I hope they will look at it as an effort to meet a national problem, and not necessarily a selfish impulse. I think we can accomplish some good there. [Resuming:]

The attitude of the independent with relation to imports is the natural outgrowth of his own experience with oil production. He has seen some new source of oil supply come into the markets of the United States where the nature of production as to volume or costs was such as to be destructive of much of our petroleum supply. His own experience and the experience of the various State governments in which he operates have caused the enactment of the heretofore described conservation laws and the growth of conservation practices.

Without some definite policy safeguarding against imports, our entire conservation program must fall. The domestic producer would be forced to skim the cream of any new field and abandon the greater part of the reserves. Soon new discoveries would come to an end.

The American petroleum industry has achieved much. It has functioned effectively in peace and in war. We of the independent group are encouraged that your committee has displayed great interest in the continuance of our industry's useful work. We stand ready to assist you in any way that we can.

I might say that I want to express to your committee my very great appreciation for your patience through a long paper. History gets longer every year.

The CHAIRMAN. It was a very interesting statement, Mr. Brown. I am sure it was no tax on our patience.

Mr. BROWN. Thank you, Mr. Chairman.

The CHAIRMAN. Are there any questions?

Senator MOORE. No, I think not.

Mr. ENGLAND. Mr. Chairman, may I ask a question?

The CHAIRMAN. Certainly, Mr. England.

Mr. ENGLAND. Mr. Brown, what is your thought with respect to a company that has a supply of crude abroad? If we restrict imports, will they not build refineries abroad?

Mr. BROWN. There will be some. However, there has never been a disposition to restrict the bringing of oil in here for refining and reshipping if they wanted to do that. But I think there will be refineries built abroad, yes, to meet foreign requirements. Those resources and reserves are going to be developed. That is true.

Mr. ENGLAND. That is right.

Mr. MAJEWSKI. That already has been done, Mr. Chairman. They have built these refineries abroad. They are already there.

Mr. ENGLAND. But if you stop the imports entirely, they will probably build more of them.

Mr. FELL. Might I suggest that Mr. Brown's paper did not recommend eliminating imports entirely.

The CHAIRMAN. I take it that the recommendation which he makes is against letting down the bars on imports.

Mr. Brown. That is right.

The Chairman. So that the continued progress of the search for new domestic sources might be impaired. That is what you desire to say?

Mr. Brown. That is the important part of it; that is correct.

The Chairman. I take it that your purpose is not to recommend such a policy of exclusion as to penalize the consumer?

Mr. Brown. No; that certainly is not the point. We now are enjoying the best consumer prices in the world, and I would not want to endanger that too greatly. I think the consumer is really benefited by a constantly increasing supply of near-by oil.

Mr. Fraser. On the other hand, if the national defense were in issue, a higher price would not perhaps indicate a different policy.

Mr. Brown. No; national defense sometimes is really one of the first things we must consider.

Mr. Fraser. To be safe, we might even pay bigger prices here.

Mr. Brown. That is right, and we could, very well.

The Chairman. I take it, that you are also suggesting to the State Department that in carrying out perhaps the authority granted by Congress under the Reciprocal Trade Agreements Act, an act which it may be proper to say was passed by a bipartisan vote, the State Department should give consideration, before granting any concessions, to the important aspect of maintaining the domestic petroleum industry?

Mr. Brown. We feel that that should be one of the principal factors in their determination of policy.

The Chairman. I assume that if the State Department were to undertake to consider any reduction of tariffs upon petroleum from foreign countries, it would, under that law, call in to a public hearing all those who might be interested; and that would give the opportunity to the industry to express itself.

Mr. Brown. It could. That involves a lot of discussion as to their past procedure. We think their approved procedure does not permit of that preunderstanding of the whole problem. That is one of the things we want to develop.

The Chairman. And that will be discussed, I take it, by Mr. Franklin.

Are there any other questions?

Captain Franchot. Mr. Chairman, may I just call attention to what I think might be a wrong impression that might have been received by you, in view of a question which you asked? It grows out of the question that you asked, whether figures could be presented here that would show the volume of sales by major oil companies to independents, to be used under secondary recovery methods.

The Chairman. That is, the sale of reserves.

Captain Franchot. I do not think that happens at all, sir. I think a distinction must be drawn between the sale by majors of stripper production, where the chance of using secondary recovery methods is not particularly likely, or is so remote that it is not taken into consideration. That goes on all the time, the sale by majors of stripper production, because the small fellow can nurse it along and make something out of it.

As far as the majors selling reserves where known secondary recovery methods can be used, it is my opinion, based on my experience, that

it is so very small that it is practically negligible. If a major has something that is susceptible of the use of secondary recovery, he will hang onto it. And the best illustration of that is the almost religious way in which the South Penn Oil Co., which was a part of the old Standard Oil group, hangs onto its reserves.

Mr. Fraser. And does use the secondary method?

Captain Franchot. And does use the secondary recovery method. So I do not believe—it may be challenged in fields where I have not had experience—that your question will bring out anything more than a zero.

The Chairman. My question was designed to get additional information on a statement which I undersood the witness to make, namely, that more than 50 percent of all secondary recovery is carried on by independents, and that the majors do not do that.

Captain Franchot. That is true; and I think it is due to the fact that the majors, outside of South Penn—and I do not know whether we can classify South Penn as a major or not; it came out of a major—but I think that is due to the fact that in the old Bradford field and in the other fields where secondary recovery can be used effectively, there was a very small holding of reserves by the majors. Outside of the South Penn, there was no company that came near to being a major that held any extensive reserves.

The Chairman. The state of the record at this moment seems to me to be this: Let us assume that South Penn is to be classified as an independent, and therefore take your statement, namely, that almost 100 percent of secondary recovery is made effective by independents.

Captain Franchot. That is true.

The Chairman. Now, am I to understand, therefore, that the majors do not undertake any secondary recovery at all?

Captain Franchot. I think they would, if they owned reserves that were susceptible of it. I do not think they would shy away from it.

The Chairman. And it is your conclusion that the majors have no reserves which are capable of secondary recovery?

Captain Franchot. I would not venture an answer to that.

The Chairman. My question was designed merely to develop the facts.

Captain Franchot. The majors may have such reserves; but I do not think they are selling them if they have. That is the point I am trying to make.

Mr. Brown. I think probably one additional development will throw some light on that. Secondary recovery, outside of the Bradford area, is a comparatively new development; and for years the major companies, after a field was fairly well exhausted, sold off much of their stripper production to smaller companies. They then, after the discovery of the secondary recovery, have applied it themselves. That may account for a lot. However, there are a lot of developments by major companies in the West, particularly, which use this secondary recovery.

The Chairman. Very well. Now, you have just restated what you said before, namely, that major companies have sold some of their reserves?

Mr. Brown. That is right.

The CHAIRMAN. My question has to do with the extent of such sales, because the records which are available to me indicate that the ownership of United States reserves by the majors is steadily increasing.

Captain FRANCHOT. I agree with that conclusion.

The CHAIRMAN. So I want to know to what extent, if at all, the major companies are disposing of any portion of their reserves. Now, Mr. Brown says they do sell some of them; you say they do not.

Captain FRANCHOT. No, sir; I agree absolutely with what Mr. Brown just said. I do not disagree with Mr. Brown's statement at all; but I am amplifying it with the point that where the majors have sold such reserves, they sold them before they knew that they were susceptible of secondary recovery. The majors are not now selling lands that are susceptible of secondary recovery when they know that they are so susceptible.

Mr. BROWN. I think that is right.

The CHAIRMAN. All I want is the facts.

Captain FRANCHOT. I am not disagreeing with anything Mr. Brown said, or anything you have just said, Mr. Chairman. I am merely trying to amplify it so that no wrong impression will be left.

Mr. BROWN. I think Mr. Andrus will develop that fully, and I think we will find that at this time there are a lot of major companies employing secondary recovery on their own properties.

The CHAIRMAN. It will be very interesting to develop this matter. I notice, from Mr. Jacobsen's face, that he has something to say.

Mr. JACOBSEN. Yes, I have been fidgeting here for a little while. I do not think that it will be found that the majors will sell any reserves susceptible to the early application of secondary recovery if they have a fairly large acreage. But, for instance, if in a certain oil field that is susceptible to the application of secondary recovery a major company has 40 acres or 80 acres or less, that would be a very small proportion of the holdings, and when it comes to the application of secondary methods in that field, the major company would rather sell it than keep it. But if they have the field themselves, or the major portion of the field, I do not think they will sell it.

Mr. BROWN. That is right.

The CHAIRMAN. In other words, the majors are not likely to let go anything they have.

Captain FRANCHOT. That is right.

Mr. JACOBSEN. If they can make any money out of keeping it. [Laughter.] Another question is perhaps we should define a little more closely what we mean by secondary recovery, and we should also bear in mind that a lot of the most modern production methods such as maintenance of pressure, and all those things, are designed to obviate the need for secondary recovery. The need for secondary recovery is to a very large extent—not altogether, but to a very large extent—the result of the earlier unscientific methods of production. In the early method we left so much oil underground that these fields are subject now to the application of secondary recovery. If we had had modern production methods in the old days, there would not now be the oil left underground to be recovered by secondary recovery.

The CHAIRMAN. Thank you very much.

Mr. FELL. May I ask Mr. Brown a question before he leaves?

The CHAIRMAN. Certainly, Mr. Fell.

Mr. FELL. You have shown in your testimony, Mr. Brown, that there is a decrease in the number of producers.

Mr. BROWN. That is right.

Mr. FELL. What action could be taken immediately by the Government that you believe would most effectively help to prevent that trend of the independent oil producers going out of business?

Mr. BROWN. The first and most direct effect would be removing price controls and giving him a decent price. That is the quick way. Price is the only thing that gives him his money.

The CHAIRMAN. Are we to understand that you advocate the removal of price controls for the petroleum industry alone, or do you recommend the removal of all price controls?

Mr. BROWN. I do not know its effect on other industries. I have studied carefully its effect on the petroleum industry, and of that I am speaking now.

The CHAIRMAN. That is a very good qualification.

Senator MOORE. He is dodging a bit now.

The CHAIRMAN. Are there any other questions?

Colonel WRIGHT. Mr. Chairman, might I ask a question?

The CHAIRMAN. Yes, Colonel Wright.

Colonel WRIGHT. I take it from this that if we had a larger importation of crude into this country, foreign crude, it would affect the conservation of oil—from your statement here?

Mr. BROWN. That is my impression, yes.

Colonel WRIGHT. With the large unlimited facilities we have in this country for the production of shale oil, which we know can be done economically, wouldn't that affect it exactly the same way?

Mr. BROWN. It would postpone the application of recovery methods on shale oil to some future time.

Colonel WRIGHT. No. I am asking you to reverse the picture. If the shale oil were developed, or hydrogenation or synthesis or gasification of the oil were developed to any great extent, and you received a great deal of finished petroleum products from this means of refining, wouldn't that have the same effect as the large importation of crude oil from foreign countries?

Mr. BROWN. It would have to some degree, but the high cost of that development would probably enable natural oil to stay in the market. Then, I do not think this country would be hurt much. If, in the development of shale oil, we found an abundant reserve that would meet the requirements of the country, we could then postpone the other. The thing I am arguing to is always having a readily producible reserve in the United States or nearby. And if it comes from shale oil, which eventually no doubt much of it will, I do not think this country will be hurt much by that.

Colonel WRIGHT. But the same amount of production would come out either way?

Mr. BROWN. It would have the effect of getting the product, but at a higher cost, of course.

Colonel WRIGHT. I take it that your answer, Mr. Brown, might be restated something like this, that the cost of producing oil from shale and, by the hydrogenation process from coal, is greater now than the cost of petroleum produced domestically and abroad, and that cheap

oil from abroad would not only prevent, if admitted in large quantities, the development of hydrogenation oil, but also the development of new sources of petroleum within the United States?

Mr. BROWN. That is correct.

The CHAIRMAN. Are there any further questions?

Mr. HARDEY. I would like to say, too, Mr. Chairman, that I think the technique that might be used in the processing of oil from shale, in the continuation of a free-enterprise system, I hope would be available to the independent producers and the major oil companies alike, and that they would be the first to go into the process of handling that.

The CHAIRMAN. Mr. Hardey, it is so written into the law.

Mr. HARDEY. Thank you, sir.

The CHAIRMAN. Does that complete your statement, Mr. Brown?

Mr. BROWN. Yes, sir.

The CHAIRMAN. The committee is very indebted to you.

Mr. BROWN. Thank you very much, sir.

The CHAIRMAN. Before asking you to proceed with another witness, Mr. Fell—it is a little late this afternoon—the Chair is going to take the liberty of introducing some testimony which bears on the relationship between the majors and the independents.

Early in the month I wrote the following letter to the Attorney General, asking for certain information which I felt was available in the Department of Justice from the studies that are being made by that department, certain statistical information with respect to the ownership of oil, and so forth.

(The letter referred to is as follows:)

SPECIAL COMMITTEE INVESTIGATING PETROLEUM RESOURCES,
March 5, 1946.

The Honorable TOM C. CLARK,
United States Attorney General, Justice Department, Washington, D. C.

MY DEAR MR. ATTORNEY GENERAL: The Special Committee Investigating Petroleum Resources has scheduled hearings beginning March 19 on the position of the companies and the individuals in the independent branch of the industry. It is my understanding from the trade journals that the Antitrust Division of the Department of Justice has in recent months been collecting information with respect to the relative positions of the large companies in the industry. It will be greatly appreciated if you would make available to the committee a summary and compilation of the information obtained by the Antitrust Division.

Sincerely yours,

JOSEPH C. O'MAHONEY,
Chairman.

I now have a letter, under date of March 18, 1946, from the Assistant Attorney General, Wendell Berge:

MY DEAR SENATOR: On March 14, 1946, the Attorney General wrote you stating that certain statistical information, showing the relative positions of the major units in the petroleum industry, would be forwarded to you pursuant to your request of March 5, 1946.

Enclosed please find copies of 10 schedules, prepared in the Antitrust Division, showing the positions of groups of 18 to 21 companies in the producing and refining branches of the petroleum industry.

With kind personal regards,

Sincerely yours,

[Signed] WENDELL BERGE,
Assistant Attorney General.

Photostatic copies of these charts have been submitted to me. Mr. Watson Snyder of the Department of Justice, who was in charge of their preparation, is here. Mr. Snyder, I wonder if you would identify these and describe them to the committee?

STATEMENT OF WATSON SNYDER, REPRESENTING THE DEPARTMENT OF JUSTICE, WASHINGTON, D. C.

Mr. Snyder. This group of tabulations was prepared from questionnaires sent to 22 of the major oil companies and was an attempt to bring down to date to some extent the TNEC studies. Twenty of the 22 companies answered. Some of the information from the other two companies had to be taken from correspondence and annual reports.

The Chairman. I take it that the Department of Justice had no ulterior purpose but was merely trying to bring down to date the information which was developed by the Temporary National Economic Committee?

Mr. Snyder. That is really true, in many respects, because, you see, under the War Manpower and Reconversion Act, and under the Surplus Property Act, we are called upon to analyze certain sales and certain situations. And the TNEC situation was pretty old, so we thought we would try to bring it down to date as best we could.

We did not make the complete coverage which TNEC made. The first eight schedules are all made from information taken from the answers to the questionnaires. The ninth schedule, which has to do with refining capacities of the various companies, showing the location of refineries and the various capacities, crude, cracking, catalytic, alkylation, butane, isomerization, and aviation gasoline was not obtained from the companies directly. It was obtained from oil and gas journals, the Department of Commerce, the Bureau of Mines, and various other sources.

The top schedule is a summary of the nine schedules following it. It merely shows the percentage enjoyed by the number of companies in the first column in each of the years reported, 1939 to 1945. Naturally, in some categories it was impossible to get any figures prior to 1945 or 1944.

Mr. Fraser. Are the companies listed that you sent the questionnaires to?

Mr. Snyder. Yes, they are listed on the tables or schedules rather, 1 to 8. On table 9 there was no information obtained directly from the companies. That is a compilation from various sources.

The Chairman. Would you briefly summarize the information on the first table?

Mr. Snyder. The number of producing wells as of December 31 of each of the years 1939 to 1944, both inclusive, is the information reported by 21 of the 22 companies.

The Chairman. And what does it show as of 1939?

Mr. Snyder. In 1939, the 21 companies owned 27.6 percent of the producing wells of the Nation, and in 1944, 29.4 percent.

Senator Moore. Does that mean the production?

Mr. Snyder. No, the number of wells.

Senator MOORE. I see. The number of wells.

Mr. SNYDER. The second item is the annual gross production of crude oil. Twenty-one companies in 1939 produced 52.2 percent. In 1944, they produced 61.3 percent.

The third item is the stocks of crude oil as of the last day of the year. Nineteen companies in 1939 had 75.7 percent; in 1944, 78.9 percent.

The annual crude runs to stills for 19 companies shows in 1939, 80.9 percent; 1944, 83.2 percent.

The annual motor fuel manufactured, for 19 companies was 72.6 percent in 1939; 64.6 percent in 1944.

The stocks of motor fuel, as of the last day of each of the years, for 19 companies, was 80.4 percent in 1939 and 56.8 percent in 1944.

On aviation gasoline manufactured, the figures for 17 companies are reported. It was 56.9 percent in 1939 and 73.8 percent in 1944.

Those figures that I have read are the compilations taken from the answers to the questionnaires. The following figures are not quite as complete.

The crude oil refining capacity for the 21 companies as of 1940 was 75.8 percent; as of 1945, 82.0 percent.

Cracking capacity, as reported by the Bureau of Mines for the 21 companies, was 84.1 percent in 1940, and 85.8 percent in 1945.

Catalytic cracking capacity for 18 companies was 100 percent in 1940, and 88.2 percent in 1945. Of course, that was due to the war effort and the building of new catalytic plants as well as majors.

The alkylation capacity for 18 companies was 82.0 percent at a date in 1944. There are no comparable figures for the other years.

Aviation gasoline capacity for 21 companies as of March 1945, was 88.8 percent. It was impossible to get figures for the other years.

We did not select any figures on reserves or pipe lines. I am getting some pipe-line information together, but I do not know how accurate it is going to be.

On reserves, it is nearly impossible to get any accurate figures to make a comparison with it. The latest figures that I think there are are in the Senate Public Lands Committee hearings of 2 years ago.

The CHAIRMAN. Thank you very much, Mr. Snyder.

(The tables above referred to are as follows:)

Position of major oil companies in the industry

	Number of companies	1939	1940	1941	1942	1943	1944	1945	References
		Percent	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*	
Number of producing oil wells (Dec. 31)	21	27.6	28.0	28.6	28.3	28.7	29.4	------	Table 1.
Annual gross production of crude oil	21	52.2	54.2	53.8	55.2	58.8	61.3	------	Table 2.
Stocks of crude oil (Dec. 31)	19	75.7	78.1	77.3	81.8	79.8	78.9	------	Table 4.
Annual crude runs to stills	19	80.9	81.3	81.5	80.4	82.8	83.2	------	Table 5.
Annual motor fuel manufactured	19	72.6	74.4	71.6	68.6	66.8	64.6	------	Table 6.
Stocks of motor fuel (Dec. 31)	19	80.4	77.9	82.0	73.6	65.7	56.8	------	Table 7.
Aviation gasoline manufactured	17	56.9	43.5	65.4	65.0	69.6	73.8	------	Table 8.
Crude oil refining capacity (Jan. 1)	21	------	75.8	------	------	------	------	82.0	Table 9.
Cracking capacity (Jan. 1)	21	------	84.1	------	------	------	------	85.8	Do.
Catalytic cracking capacity (Jan. 1)	18	------	100.0	------	------	------	------	88.2	Do.
Alkylation capacity (Nov. 1)	18	------	------	------	------	------	82.0	------	Do.
Butane isomerization capacity (Nov. 1)	12	------	------	------	------	------	81.9	------	Do.
Aviation gasoline capacity (March)	21	------	------	------	------	------	------	88.8	Do.

TABLE 1.—*Domestic producing oil wells*

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	6, 706	6, 189	6, 365	5, 969	5, 803	5, 688
Pure	4, 754	4, 871	5, 200	5, 343	5, 412	5, 619
Tide Water	4, 065	4, 223	4, 603	5, 017	5, 128	5, 181
Socony	8, 787	9, 357	9, 671	9, 772	9, 819	10, 024
Richfield	439	437	527	525	533	594
Standard (New Jersey)	4, 039	3, 805	3, 857	3, 717	2, 777	3, 073
Humble	6, 813	7, 250	7, 655	7, 856	7, 913	8, 030
Skelly	1, 877	2, 116	2, 272	2, 389	2, 490	2, 781
Mid Continent	1, 247	1, 123	1, 121	1, 067	1, 067	1, 055
Shell	6, 465	6, 941	7, 932	8, 255	8, 412	8, 619
Sun	2, 312	2, 398	2, 542	2, 602	2, 709	2, 898
Gulf	8, 234	8, 698	9, 008	9, 110	8, 975	9, 231
Phillips	4, 926	5, 328	5, 928	5, 936	6, 577	6, 780
Continental	4, 758	5, 110	5, 540	5, 764	6, 112	6, 169
Standard (Ohio)	245	250	285	314	891	1, 051
Union	715	926	1, 093	1, 224	1, 295	1, 537
Atlantic	2, 037	2, 144	2, 362	2, 421	2, 769	2, 852
Texas	9, 284	10, 292	10, 702	10, 874	11, 201	11, 922
Standard (Indiana)	4, 165	4, 463	5, 160	5, 216	5, 745	6, 094
Sinclair [1]	8, 339	8, 270	8, 245	8, 181	7, 916	7, 930
From Standard Poor's:						
Ohio Oil Co	10, 992	10, 818	10, 801	10, 322	9, 665	8, 824
Standard (California)	3, 961	3, 969	4, 098	4, 220	3, 992	4, 204
Major company total	105, 160	108, 978	114, 877	114, 870	117, 141	120, 156
Total producing oil wells in United States	[2] 380, 390	[3] 389, 010	[3] 399, 960	[3] 404, 840	[3] 407, 170	[4] 408, 629
Percent held by majors	27. 6	28. 0	28. 6	28. 3	28. 7	29. 4

[1] Net wells—e. g., 50 percent interest in a well=½ well.
[2] Bureau of Mines—Crude Petroleum and Petroleum Products, 1943, p. 3.
[3] Bureau of Mines—Crude Petroleum and Petroleum Products, 1944, p. 3.
[4] Oil and Gas Journal, Jan. 27, 1945, p. 176.

TNEC percentages: 1931, 21.7 percent; 1935, 22.7 percent; 1936, 23.4 percent; 1937, 23.7 percent; (vol. 14A, table G, p. 7714).

TABLE 2.—*Gross production of crude oil*

[42-gallon barrels]

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	25, 439, 049	26, 261, 532	28, 588, 606	30, 474, 721	31, 632, 795	30, 672, 839
Pure	24, 507, 000	25, 816, 000	27, 623, 000	27, 854, 000	29, 832, 000	36, 698, 000
Tide Water	24, 311, 321	26, 790, 342	29, 336, 480	31, 358, 450	35, 332, 172	40, 456, 539
Socony	62, 226, 606	63, 753, 909	59, 781, 388	58, 713, 777	64, 329, 413	70, 078, 972
Richfield	7, 174, 405	7, 496, 657	9, 338, 783	9, 260, 345	9, 315, 030	10, 695, 058
Standard (New Jersey)	23, 212, 000	30, 367, 000	28, 951, 000	26, 239, 000	24, 945, 000	24, 512, 000
Humble	59, 225, 539	60, 646, 592	67, 445, 031	68, 912, 163	106, 302, 544	138, 520, 429
Skelly	8, 300, 086	9, 721, 727	11, 010, 045	10, 912, 244	12, 744, 111	14, 778, 005
Mid-Continent	6, 747, 292	6, 496, 162	6, 979, 962	6, 425, 397	6, 108, 212	6, 569, 547
Shell	61, 043, 000	66, 054, 000	72, 896, 000	78, 044, 000	88, 803, 000	93, 398, 000
Sun [1]	13, 900, 957	13, 863, 095	15, 554, 062	14, 833, 372	20, 711, 020	28, 141, 970
Gulf	47, 471, 723	53, 252, 516	54, 619, 052	54, 006, 078	64, 470, 329	79, 971, 841
Phillips	36, 877, 113	39, 752, 081	45, 062, 309	43, 842, 570	45, 875, 180	52, 890, 301
Continental	23, 053, 449	26, 053, 997	29, 809, 683	30, 271, 518	29, 314, 320	31, 393, 833
Standard (Ohio) [2]	302, 971	227, 745	187, 161	779, 418	2, 409, 611	4, 310, 363
Union	19, 992, 760	20, 771, 185	21, 382, 831	23, 777, 172	28, 195, 838	31, 397, 592
Atlantic [1]	14, 916, 571	15, 424, 000	17, 246, 857	16, 588, 751	20, 203, 428	28, 149, 714
Texas [3]	74, 953, 771	99, 070, 778	86, 901, 584	76, 669, 706	84, 639, 468	98, 523, 647
Standard (Indiana)	37, 104, 521	38, 171, 342	44, 843, 705	46, 989, 137	58, 558, 198	72, 379, 057
Sinclair	26, 290, 000	27, 665, 000	31, 217, 000	29, 881, 000	30, 083, 000	31, 154, 000
From Standard Poor's Manual:						
Standard (California)	38, 406, 217	37, 840, 763	38, 884, 163	47, 140, 380	56, 654, 383	68, 182, 332
Ohio Oil Co	25, 113, 875	27, 733, 866	28, 069, 308	33, 096, 980	35, 446, 777	36, 417, 125
	660, 570, 216	723, 230, 379	755, 729, 010	766, 070, 179	885, 905, 829	1,029,291,164
United States total gross production [4]	1,264,962,000	1,353,214,000	1,402,228,000	1,386,645,000	1,505,613,000	1,677,709,000
Major company percentage	52. 2	54. 2	53. 8	55. 2	58. 8	61. 3

[1] Sun and Atlantic reported net production. Calculated into gross by adding ⅛. See Sun and Atlantic letters.
[2] Sohio reported net. WBWS calculated gross by adding ⅛.
[3] Royalty oil from joint wells included in purchases, No. 3.
[4] Bureau of Mines, Minerals Yearbooks, 1943 and 1944.

TNEC percentages: 1926, 46.3 percent; 1931, 51.1 percent; 1935, 54.5 percent; 1936, 53.3 percent; 1937, 52. 5 percent (vol. 14A, table G, p. 7714).

TABLE 3.—*Domestic crude oil purchased*

[42-gallon barrels]

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	26, 430, 000	32, 474, 000	28, 945, 000	26, 694, 000	29, 264, 000	47, 528, 000
Pure	18, 257, 000	20, 026, 000	18, 955, 000	20, 742, 000	20, 979, 000	24, 852, 000
Tide Water	34, 784, 000	34, 162, 988	33, 024, 057	30, 471, 677	38, 429, 809	41, 072, 166
Socony	52, 695, 361	62, 972, 558	69, 508, 599	63, 090, 969	68, 002, 106	82, 598, 468
Richfield	9, 359, 722	9, 460, 108	9, 263, 568	12, 298, 773	13, 714, 380	14, 356, 314
Standard (New Jersey)	35, 431, 000	43, 916, 000	51, 407, 000	73, 053, 000	87, 804, 000	108, 550, 000
Humble	88, 286, 718	86, 158, 425	91, 798, 689	79, 575, 319	102, 691, 942	141, 488, 432
Skelly	6, 839, 018	7, 718, 549	9, 047, 252	8, 719, 184	9, 341, 081	11, 103, 337
Midcontinent	3, 168, 328	3, 443, 257	3, 499, 924	2, 853, 027	4, 827, 130	7, 330, 663
Shell	49, 030, 000	51, 418, 000	56, 690, 000	62, 985, 000	66, 841, 000	74, 118, 000
Sun	26, 745, 794	38, 930, 424	38, 141, 194	40, 238, 834	59, 517, 542	81, 839, 541
Gulf	45, 893, 324	49, 442, 690	51, 897, 121	58, 772, 855	72, 782, 275	82, 097, 206
Phillips	21, 265, 897	23, 451, 443	26, 367, 233	28, 113, 644	27, 475, 599	27, 401, 981
Continental	16, 357, 235	21, 200, 970	25, 307, 471	24, 977, 439	23, 169, 747	23, 183, 192
Standard (Ohio)	24, 692, 700	31, 735, 495	38, 843, 549	37, 657, 330	32, 347, 243	31, 975, 656
Union	8, 243, 763	8, 555, 585	6, 744, 554	7, 012, 590	8, 703, 779	9, 408, 240
Atlantic	31, 978, 528	34, 876, 998	36, 265, 586	24, 757, 751	31, 015, 613	42, 091, 372
Texas	51, 487, 135	54, 998, 842	61, 842, 431	56, 833, 495	59, 480, 560	63, 714, 574
Standard (Indiana)	75, 745, 723	97, 434, 711	98, 461, 548	102, 060, 593	110, 214, 931	126, 457, 781
Sinclair [1]	45, 125, 000	54, 489, 000	52, 256, 000	52, 307, 000	67, 211, 000	72, 491, 000
From Standard Poor's: Standard (California)	31, 400, 077	32, 107, 034	32, 665, 939	41, 441, 688	43, 378, 053	44, 338, 078
Total	703, 216, 323	798, 973, 072	810, 931, 715	853, 656, 168	977, 190, 790	1,157,996,001

[1] Includes royalty oil included under item 1.

TNEC purchases—Same companies with exception of Standard (California): 1929, 490,405,000 barrels, 1930, 479,640,000 barrels; 1931, 467,104,000 barrels; 1932, 486,589,000 barrels; 1933, 485,365,000 barrels; 1934, 472,240,000 barrels; 1935, 520,913,000 barrels; 1936, 590,944,000 barrels; 1937, 704,259,000 barrels; 1938, 651,828,000 barrels (vol. 14 A, table H, p. 7716).

TABLE 4.—*Stocks of crude oil*

[In 42-gallon barrels on Dec. 31 of each year]

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	5, 307, 000	5, 324, 000	5, 287, 000	4, 735, 000	5, 614, 000	9, 720, 000
Pure	4, 259, 000	2, 763, 000	4, 207, 000	3, 758, 000	5, 210, 000	5, 286, 000
Tide Water	10, 255, 000	10, 260, 000	9, 355, 000	8, 108, 000	6, 510, 000	6, 247, 000
Socony	24, 850, 158	26, 716, 822	25, 933, 794	24, 412, 033	22, 486, 510	24, 690, 484
Richfield	2, 346, 699	1, 836, 850	3, 090, 947	3, 489, 295	1, 391, 958	1, 018, 577
Standard (New Jersey)	12, 370, 000	14, 161, 000	11, 175, 000	9, 359, 000	15, 358, 000	13, 664, 000
Humble	6, 689, 700	7, 988, 000	6, 900, 300	12, 373, 700	8, 488, 300	8, 008, 000
Skelly	321, 671	921, 996	466, 486	381, 011	716, 447	612, 826
Mid-Continent	2, 585, 639	2, 814, 344	3, 132, 140	2, 775, 290	3, 099, 169	2, 829, 207
Shell	8, 102, 000	8, 885, 000	9, 816, 000	9, 830, 000	12, 048, 000	11, 099, 000
Sun	4, 519, 379	6, 300, 143	6, 422, 105	8, 442, 202	7, 883, 642	7, 348, 070
Gulf	12, 884, 343	14, 368, 723	13, 039, 626	14, 775, 104	15, 959, 683	12, 616, 685
Phillips	5, 430, 572	6, 233, 096	5, 263, 952	5, 744, 817	8, 171, 929	6, 007, 845
Continental	8, 172, 433	9, 020, 177	7, 309, 640	6, 278, 229	5, 464, 384	4, 456, 641
Standard (Ohio)	1, 780, 723	4, 323, 028	3, 282, 724	3, 904, 229	6, 223, 051	5, 690, 780
Union	11, 833, 745	11, 145, 317	10, 544, 981	7, 839, 968	8, 003, 542	3, 451, 319
Atlantic	4, 789, 012	5, 734, 083	7, 207, 842	6, 749, 715	7, 557, 126	6, 419, 380
Texas	23, 396, 036	28, 971, 358	23, 568, 635	24, 532, 861	22, 020, 187	16, 628, 857
Standard (Indiana)	30, 712, 214	33, 170, 727	31, 274, 675	31, 907, 511	26, 132, 053	22, 860, 102
Sinclair	12, 308, 000	15, 278, 000	12, 111, 000	10, 715, 000	10, 848, 000	10, 611, 000
Total	192, 913, 324	216, 215, 664	199, 377, 847	200, 110, 965	199, 185, 981	179, 265, 753
United States total stocks, Dec. 31	253, 308, 000	276, 615, 000	257, 678, 000	245, 754, 000	249, 404, 000	226, 969, 000
Major company percentage	75.7	78.1	77.3	81.8	79.8	78.9

[1] TNEC percentages: 1926, 73.8 percent; 1931, 77.4 percent; 1935, 88.1 percent; 1936, 91.5 percent; 1937, 96.5 percent (vol. 14A, table I, p. 7716).

TABLE 5.—*Crude runs to stills*

[42-gallon barrels]

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	35, 744, 670	36, 402, 405	37, 675, 749	34, 630, 266	33, 611, 928	52, 960, 042
Pure	27, 564, 000	29, 542, 000	32, 416, 000	33, 383, 000	31, 612, 000	36, 232, 000
Tide Water	40, 821, 557	42, 567, 177	43, 310, 743	39, 326, 016	47, 780, 615	54, 294, 579
Socony	99, 832, 938	111, 485, 297	120, 448, 081	114, 068, 628	122, 405, 236	136, 855, 598
Richfield	18, 409, 373	18, 287, 653	19, 122, 320	20, 456, 463	24, 757, 581	25, 597, 789
Standard (New Jersey)	86, 536, 000	85, 334, 000	97, 313, 000	84, 203, 000	100, 312, 000	131, 664, 000
Humble	55, 757, 800	59, 224, 000	69, 586, 000	61, 674, 100	70, 169, 500	82, 622, 200
Skelly	7, 649, 962	7, 856, 321	8, 936, 239	9, 491, 225	9, 498, 406	10, 320, 019
Mid Continent	10, 174, 871	9, 824, 775	10, 648, 350	9, 865, 588	9, 720, 367	10, 556, 346
Shell	78, 941, 000	79, 308, 000	80, 213, 000	84, 099, 000	89, 216, 000	101, 318, 000
Sun	29, 956, 005	37, 926, 705	39, 229, 869	33, 311, 306	41, 964, 384	54, 777, 107
Gulf	81, 595, 344	90, 586, 666	99, 683, 107	82, 300, 941	87, 787, 625	103, 903, 941
Phillips	17, 300, 349	19, 309, 953	22, 337, 629	24, 987, 139	26, 306, 651	27, 553, 673
Continental	14, 031, 834	15, 098, 206	17, 703, 754	17, 544, 093	17, 623, 284	19, 124, 983
Standard (Ohio)	18, 029, 595	21, 132, 595	25, 581, 548	24, 812, 286	25, 890, 607	27, 409, 119
Union	24, 499, 468	24, 177, 001	26, 047, 427	30, 160, 401	34, 230, 408	42, 082, 346
Atlantic	37, 269, 372	37, 834, 251	41, 342, 079	25, 486, 095	34, 280, 758	40, 646, 484
Texas	100, 007, 427	101, 017, 871	113, 131, 108	98, 893, 593	108, 700, 428	125, 912, 605
Standard (Indiana)	96, 698, 354	105, 715, 300	112, 562, 151	105, 148, 290	108, 626, 084	115, 458, 954
Sinclair	69, 627, 000	68, 011, 000	74, 937, 000	71, 163, 000	77, 901, 000	95, 343, 000
From Standard Poor's:						
Standard (California)	50, 817, 536	51, 715, 526	57, 129, 421	67, 488, 992	82, 311, 528	89, 407, 264
Total	1,001,264,355	1,052,361,702	1,149,404,575	1,072,493,422	1,184,707,390	1,384,021,049
United States total runs to stills [1]	1,237,840,000	1,294,162,000	1,409,192,000	1,334,103,000	1,429,738,000	1,665,684,000
Major company percentage	80. 9	81. 3	81. 5	80. 4	82. 8	83. 2

[1] Bureau of Mines—Mineral Year Books, 1943 and 1944, p. 3.

TNEC percentages: 1926, 71.2 percent; 1931, 81.4 percent; 1935, 82.3 percent; 1936, 82.6 percent; 1937, 82.6 percent (vol. 14A, chart XXI, p. 7734).

TABLE 6.—*Motor fuel manufactured*

[42-gallon barrels]

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	17, 282, 871	16, 035, 584	17, 156, 036	15, 305, 345	13, 764, 802	18, 662, 723
Pure	14, 874, 000	14, 694, 000	16, 167, 000	14, 307, 000	12, 989, 000	14, 672, 000
Tide Water	17, 048, 000	17, 276, 000	18, 891, 000	16, 806, 000	18, 983, 000	23, 095, 000
Socony	42, 636, 139	47, 962, 512	51, 953, 922	43, 698, 921	44, 837, 892	55, 540, 583
Richfield	7, 014, 613	7, 626, 547	7, 065, 378	7, 238, 660	6, 692, 546	6, 507, 966
Standard (New Jersey)	31, 492, 000	30, 479, 000	35, 700, 000	26, 355, 000	23, 008, 000	30, 781, 000
Humble	18, 554, 097	18, 708, 840	23, 374, 659	14, 890, 885	13, 504, 814	13, 579, 467
Skelly	4, 684, 959	4, 758, 406	5, 831, 129	5, 500, 216	5, 316, 946	6, 152, 928
Mid Continent	5, 143, 680	4, 923, 036	5, 220, 815	4, 171, 611	3, 948, 557	4, 525, 605
Shell	40, 530, 000	39, 060, 000	41, 868, 000	41, 212, 000	42, 551, 000	50, 961, 000
Sun	14, 413, 970	16, 907, 310	19, 542, 186	13, 516, 377	11, 161, 557	9, 076, 154
Gulf	35, 150, 061	38, 709, 173	42, 778, 619	33, 892, 710	32, 485, 411	35, 820, 048
Phillips	15, 290, 115	15, 653, 468	17, 620, 306	16, 675, 459	16, 002, 190	14, 708, 390
Continental	9, 233, 938	8, 954, 353	10, 793, 190	10, 192, 531	10, 065, 859	11, 844, 369
Standard (Ohio)	10, 216, 452	11, 933, 690	13, 593, 357	12, 134, 214	10, 901, 952	12, 369, 381
Union	7, 642, 427	7, 499, 378	7, 302, 347	7, 172, 864	6, 511, 372	8, 886, 009
Atlantic	14, 631, 248	14, 263, 655	15, 121, 635	10, 266, 516	12, 506, 245	14, 554, 209
Texas	52, 029, 147	51, 907, 353	61, 758, 848	48, 666, 007	50, 771, 355	64, 125, 854
Standard (Indiana)	47, 868, 183	51, 354, 017	54, 484, 513	45, 013, 927	43, 092, 351	44, 006, 600
Sinclair	37, 774, 000	32, 276, 000	36, 693, 000	30, 552, 000	26, 672, 000	30, 458, 000
Total	443, 509, 900	450, 982, 322	502, 915, 940	417, 568, 743	406, 716, 849	470, 276, 686
United States total manufactured [1]	611, 043, 000	616, 695, 000	701, 688, 000	608, 900, 000	608, 180, 000	743, 484, 000
Major company percentage	72. 6	74. 4	71. 6	68. 6	66. 8	64. 6

[1] Bureau of Mines Mineral Year Books, 1943 and 1944, p. 3.

TNEC percentages: 1926, 71. 3 percent; 1931, 82. 6 percent; 1935, 84. 1 percent; 1936, 83. 4 percent; 1937, 83. 8 percent (vol. 14A, table P, p. 7735).

TABLE 7.—*Stocks of motor fuel*

[In 42-gallon barrels on Dec. 31 of each year]

	1939	1940	1941	1942	1943	1944
Answers to questionnaire:						
Cities Service	2, 764, 160	2, 795, 523	2, 876, 944	2, 102, 811	1, 531, 136	2, 752, 247
Pure	1, 728, 000	1, 857, 000	1, 963, 000	1, 395, 000	1, 627, 000	1, 937, 000
Tide Water	3, 185, 631	2, 640, 858	2, 992, 580	1, 532, 099	1, 357, 973	1, 702, 919
Socony	7, 225, 000	7, 151, 000	8, 677, 000	6, 776, 000	5, 792, 000	6, 236, 000
Richfield	737, 997	591, 770	618, 026	1, 366, 208	647, 771	773, 626
Standard (New Jersey)[1]	6, 755, 000	6, 817, 000	7, 311, 000	4, 586, 000	4, 421, 000	4, 765, 000
Humble	954, 260	730, 851	1, 429, 954	984, 811	628, 215	348, 514
Skelly	580, 500	574, 207	891, 614	575, 106	736, 084	757, 476
Mid Continent	747, 523	716, 418	928, 465	494, 564	452, 752	800, 114
Shell	7, 652, 000	7, 775, 000	8, 987, 000	9, 115, 000	8, 111, 000	9, 478, 000
Sun	2, 805, 906	2, 599, 885	2, 427, 666	1, 282, 321	1, 081, 994	1, 170, 308
Gulf [2]	4, 194, 328	4, 020, 906	5, 272, 441	3, 265, 194	2, 695, 329	3, 007, 585
Phillips	2, 011, 794	2, 079, 851	2, 258, 388	1, 906, 599	2, 364, 630	1, 874, 627
Continental	2, 185, 761	1, 846, 771	2, 419, 957	1, 778, 708	1, 625, 576	1, 504, 562
Standard (Ohio)	832, 828	751, 087	968, 009	739, 412	682, 107	990, 116
Union	1, 254, 313	1, 424, 436	1, 010, 398	1, 080, 991	841, 740	1, 016, 055
Atlantic	2, 185, 288	2, 003, 110	2, 152, 047	1, 394, 210	1, 116, 254	1, 605, 348
Texas	8, 260, 881	9, 023, 105	10, 371, 130	8, 273, 387	7, 357, 146	7, 143, 015
Standard (Indiana)	5, 347, 130	5, 853, 876	6, 540, 551	4, 252, 388	3, 884, 336	4, 076, 256
Sinclair	4, 303, 000	3, 852, 000	4, 297, 000	2, 649, 000	2, 587, 000	3, 380, 000
Total	65, 711, 300	65, 104, 654	74, 393, 170	55, 549, 759	49, 536, 043	49, 318, 768
United States total stocks (Dec. 31)[3]	81, 722, 000	83, 647, 000	90, 688, 000	75, 404, 000	75, 327, 000	86, 830, 000
Major company percentages	80. 4	77. 9	82. 0	73. 6	65. 7	56. 8

[1] Includes some special products.
[2] Includes aviation gasoline.
[3] Minerals Year Books.

TNEC percentages: 1926, 84.7 percent; 1931, 91.1 percent; 1935, 89.4 percent; 1936, 88.2 percent; 1937 90.0 percent (vol. 14A, table I, p. 7716).

TABLE 8.—*Aviation gasoline manufactured*

[42-gallon barrels]

Answers to questionnaire		1939	1940	1941	1942	1943	1944
Cities Service	100 and up						3,484,588
	Up to 99				238,766	809,254	778,536
Pure	100 and up						301,000
	Up to 99					35,000	93,000
Tide Water	100 and up		90,000	363,000	1,189,000	2,962,000	5,005,000
	Up to 99	45,000	19,000	107,000	585,000	785,000	931,000
Socony	100 and up	46,000	645,000	1,081,000	2,714,000	8,697,000	14,648,000
	Up to 99	24,000	50,000	148,000	609,000	2,754,000	3,940,000
Richfield	100 and up		14,100	370,768	1,085,024	2,596,276	4,515,328
	Up to 99	4,787	9,041	214,903	191,653	482,081	575,209
Standard (New Jersey).	All	1,872,000	1,720,000	2,071,000	4,665,000	10,106,000	17,685,000
Humble	100 and up	372,827	549,290	1,637,315	4,023,827	6,847,971	10,067,797
	Up to 99	1,335,028	879,174	476,891	2,685,827	1,360,766	3,081,860
Skelly				None			
Mid-Continent				None			
Shell	100 and up	306,000	589,000	1,932,000	5,958,000	9,753,000	17,468,000
Sun	do				1,975,962	4,228,134	9,464,352
	Up to 99				182,770	1,220,951	1,746,141
Gulf	100 and up	3,086	12,265	415,603	232,772	1,405,468	4,243,975
	Up to 99	394,693	566,602	1,090,691	1,713,278	2,699,248	3,046,232
Phillips	100 and up	35,245	51,435	938,563	1,394,803	4,338,336	1,696,237
	Up to 99		79	17,490	837,253	491,541	5,132,067
Continental	100 and up						959,708
	Up to 99			3,535	38,711	3,573	
Standard (Ohio)	100 and up				208,502	729,988	1,256,240
	Up to 99				168,812	513,943	680,417
Union	100 and up		53,635	160,244	391,234	576,203	2,312,650
	Up to 99	256,453	21,764	92,293	476,689	764,258	2,886,297
Atlantic	100 and up					517,000	2,654,552
	Up to 99				195,904	543,735	651,977
Texas	100 and up	4,298	143,753	258,557	2,064,855	2,250,961	7,688,456
	Up to 99	432,365	548,100	747,687	1,097,729	2,455,691	1,756,374
Standard (Indiana)	100 and up	242	106,900	171,768	78,880	414	7,738,319
	Up to 99	220,597	330,775	413,679	583,248	2,626,815	2,139,182
Sinclair	100 and up			44,800	13,700	873,000	4,164,000
	91 to 99			1,154	71	576,000	2,160,000
Totals		5,352,621	6,399,913	12,757,941	35,600,270	74,003,607	144,951,494
Total United States production.		[1] 9,400,000	[2] 14,700,000	[2] 21,100,000	[2] 54,526,000	[2] 106,223,000	[2] 196,383,000
Major company percentages.		56.9	43.5	60.4	65.0	69.6	73.8

[1] Census of Manufactures for 1939.
[2] Bureau of Mines, Mineral Market Report No. MMS 1360.

TABLE 9. *Refining capacity*

[42-gallon barrels per day]

Major companies	Crude oil capacity [1]				Cracking capacity [1]				Catalytic capacity [2]				Alkylation [2]		Butane isomerization [2]		Aviation gasoline [2]	
	Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Nov. 1, 1944		Nov. 1, 1944		March 1945	
	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent
Atlantic:																		
Philadelphia, Pa	83,000		95,000		21,900		28,000				15,000		1,750				8,150	
Atreco, Tex	22,600		23,000		8,000		7,500				15,000		2,245				6,280	
Atlantic, total	105,600	2.2	118,000	2.1	29,900	2.7	35,500	2.3			30,000	3.0	3,995	2.5			14,430	2.8
Cities Service:																		
East Chicago, Ind	30,000		30,000		9,900		11,000						1,650		324		3,310	
Bossier City, La [3]	23,000		27,000		7,300		8,000											
Lake Charles, La [4]			70,000								55,000		6,125		1,670		18,570	
East Braintree, Mass. [5]	20,000		20,000		3,600		3,600											
Linden, N. J. [6]	12,000		12,000															
Pettys Island, N. J	20,000		[7] 20,000		4,500		[7] 4,500											
Okmulgee, Okla	4,000		[7] 4,000		624		[7] 600											
Ponca City, Okla	12,000		11,000		2,475		2,500											
Titusville, Pa [6]	3,000		3,000															
Cities Service, total	124,000	2.6	197,000	3.1	28,399	2.6	30,200	1.9			55,000	5.4	7,775	4.9	1,994	5.7	21,880	4.3
Continental:																		
Denver, Colo	2,700		2,700		940		900											
Lake Charles, La			8,000				2,400						700				1,580	
Baltimore, Md	7,500		7,500		1,765		2,100											
Lewiston, Mont	1,225		(8)															
Albuquerque, N. Mex	625		(8)															
Artesia, N. Mex	1,500		1,500		330		400											
Farmington, N. Mex	750		750															
Ponca City, Okla	26,000		26,000		10,575		9,000				30,000		2,670		1,000		6,100	
Wichita Falls, Tex	5,000		5,000		1,500		2,400						235				480	
Glen Rock, Wyo	2,800		3,400		989		1,500											
Continental, total	48,100	1.0	54,850	1.0	16,099	1.5	18,700	1.2			30,000	3.0	3,605	2.3	1,000	2.8	8,160	1.6
Gulf:																		
Gulf Port, Staten Is., N. Y	13,000		13,000															
Hooven-Cleves, Ohio	19,000		27,000		8,379		6,600											
Toledo, Ohio	18,000		21,000		5,500		7,500											

Gerard Point, Pa	30,000		58,000		12,000		25,000											
Neville Island, Pa	10,000		12,000		3,600		6,000											
Fort Worth, Tex	6,000		7,200		1,700		2,000											
Port Arthur, Tex	125,000		154,000		34,600		36,000				34,000		3,600				10,580	
Sweetwater, Tex	6,000		7,700		1,550		2,000											
Gulf, total	227,000	4.8	299,900	5.8	67,329	6.1	85,100	5.6			34,000	3.4	3,600	2.2			10,580	2.1
Mid Continent: Tulsa, Okla	40,000		30,000		8,000		8,500										1,380	
Mid Continent, total	40,000	.8	30,000	.6	8,000	.7	8,500	.5									1,380	.2
Ohio Oil:																		
Robinson, Ill	12,500		15,000		3,750		6,300										450	
Lovell, Wyo	2,500		5,000															
West Lewiston, Mont			[7] 1,300				[7] 200											
Fort Worth, Tex	4,500		(9)		771		(9)											
Ohio, total	19,500	.4	21,300	.4	4,521	.4	6,500	.4									450	.0
Phillips:																		
Kansas City, Kans	23,000		27,000		12,000		12,000						2,400		1,080		3,190	
Okmulgee, Okla	6,000		7,000		1,500		1,500										540	
Borger, Tex	35,000		[10] 44,000		16,000		17,000				8,000		3,410		2,700		20,510	
Penwell, Tex	1,000		(8)		400		(8)											
Phillips, total	65,000	1.4	78,000	1.5	30,500	2.8	30,500	1.8			8,000	.8	5,810	3.7	3,780	10.7	24,240	4.7
Pure:																		
Midland, Mich	3,200		4,200															
Toledo, Ohio	22,500		30,000		9,800		9,700										220	
Heath, Ohio	16,000		15,000		5,700		5,700											
Corpus Christi, Tex.[11]	11,500		9,500															
Nederland, Tex	59,000		55,000		19,500		18,000				20,000		1,440				3,580	
Cabin Creek. W. Va	4,000		6,000		800		1,500											
Pure, total	116,200	2.4	119,700	2.2	35,800	3.2	34,900	2.2			20,000	2.0	1,440	.9			3,800	.7
Shell:																		
Coalinga, Calif	6,600		[10] 6,700															
Martinez, Calif	25,500		[10] 40,000		7,800		7,200						750				2,340	
Wilmington, Calif	38,000		[10] 52,000		10,300		16,900				15,000		6,500		1,700		19,560	
Wood River, Ill	92,000		85,000		33,000		79,000				37,000		5,000		1,200		19,630	
Norco, La	21,000		25,000		6,200		18,900						875					
Houston, Tex	74,000		74,000		21,900		54,000						2,600		1,350		10,630	
East Chicago, Ind	30,000		(8)		11,000		(8)											
Shell, total	287,100	6.1	286,700	5.5	90,200	8.1	176,000	11.4			52,000	5.2	15,725	9.9	4,250	12.1	52,180	10.2

See footnotes at end of table.

TABLE 9. *Refining capacity*—Continued

Major companies	Crude oil capacity [1]				Cracking capacity [1]				Catalytic capacity [2]				Alkylation [2]		Butane isomerization [2]		Aviation gasoline [3]	
	Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Nov. 1, 1944		Nov. 1, 1944		March 1945	
	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent
Richfield:																		
Hynes, Calif.	55,000		[7] 12,000		3,500													
Vinvale, Calif.	10,000		[7] 8,000		1,400		1,100											
Watson, Calif.	80,000		70,000		13,500		13,000				27,000		3,370		450		16,750	
Richfield, total	145,000	3.1	90,000	1.7	18,400	1.7	14,100	.9			27,000	2.7	3,370	2.1	450	1.3	16,750	3.3
Sinclair:																		
East Chicago, Ind.	45,000		55,000		13,000		[10] 30,000						685				1,250	
Coffeyville, Kans.	12,000		11,000		2,500		[10] 7,000											
Kansas City, Kans.	11,000		13,000		2,500		[10] 7,000											
Wellsville, N. Y.	10,000		11,000		2,500		[10] 6,000											
Sand Springs, Okla.	6,000		5,100		700		[10] 3,000											
Marcus Hook, Pa.	45,000		65,000		12,000		[10] 40,000											
Corpus Christi, Tex.	(12)		27,000				[10] 12,000				12,000		1,650				5,310	
Houston, Tex.	60,000		73,000		13,000		[10] 52,000				22,000		1,800				5,510	
Fort Worth, Tex.	4,000		6,200		1,300		[10] 3,000											
Sinclair (Parco), Wyo.	8,000		14,000		2,500		[10] 7,000				8,500		1,700		180		3,790	
Gladewater, Tex.	4,000		(8)															
Sinclair, total	205,000	4.3	280,300	5.4	50,000	4.5	167,000	10.8			42,500	4.2	5,835	3.7	180	.5	15,860	3.1
Skelly:																		
El Dorado, Kans.	23,000		25,000		8,850		8,000										450	
Longview, Tex.	(13)		10,000		(13)		1,100											
Skelly, total	23,000	.4	25,000	.5	8,850	.8	9,100	.6									450	0

Socony:																		
Lebec, Calif.[14]	12,000		23,000				2,500											
Torrance, Calif.[14]	52,000		65,000		4,400		[10] 7,700				36,000		1,900				6,660	
Vernon, Calif.[14]	28,000		[7] 22,000															
East St. Louis, Ill.	15,000		20,000		5,500		[10] 4,500				20,000		1,670				5,600	
East Chicago, Ind.	12,000		25,530		3,900		[10] 6,450				10,000						1,100	
Augusta, Kans.	21,500		25,000		10,000		[10] 6,000				10,000		855				(15)	
Trenton, Mich.	24,500		[10] 25,500		9,600		8,200		11,000		10,000						1,180	
Paulsboro, N. J.	25,200		[10] 25,200		10,900		[10] 12,500				20,000		1,670				5,940	
Brooklyn, N. Y.	19,000		19,000		5,200		[10] 5,200		10,000		10,000						700	
Buffalo, N. Y.	14,500		19,000		7,200		[10] 7,200		10,000		10,000						770	
Olean, N. Y.	6,500		6,500															
East Providence, R. I.	9,000		5,500		1,650		750											
½ Sweeney, Tex.[16]			18,000				4,700											
Fort Worth, Tex.[17]	5,800		12,000		1,700		[10] 5,400											
Beaumont, Tex.[17]	100,000		110,000		24,100		[10] 40,840		30,000		50,000		4,200				17,220	
Casper, Wyo.	5,000		4,200		1,000		[10] 750											
Luling, Tex.[17]	6,500		(18)		2,400		(18)											
Corsicana, Tex.[17]	5,000		(18)				(18)											
Vernon, Calif.[19]	2,500		[10] 3,500															
Santa Maria, Calif.[19]	1,500		[7] 1,500															
Socony, total	365,500	7.7	430,430	8.3	87,550	7.9	112,690	7.3	61,000	41.7	176,000	17.4	10,295	6.5			39,250	7.7
Standard—California:																		
El Segundo, Calif.	100,000		[10] 100,000		21,000		28,000				13,000		3,535		1,050		9,020	
Richmond, Calif.	100,000		132,000		14,000		19,000				28,000		2,300		750		20,320	
Seguro, Calif.	25,000		[10] 25,000															
Baltimore, Md.[20]			2,400															
East Providence, R. I.[20]			1,400															
Colorado City, Tex.[21]	12,500		10,000		1,750		1,800											
El Paso, Tex.[22]	14,000		[10] 14,000		2,000		2,500											
Kettleman Hills, Calif.																		
Standard—California, total	251,500	5.3	285,800	5.5	38,750	3.5	51,300	3.3			41,000	4.1	5,835	3.7	1,800	5.1	29,340	5.7

See footnotes at end of table.

TABLE 9. *Refining capacity*—Continued

Major companies	Crude oil capacity [1]				Cracking capacity [1]				Catalytic capacity [2]				Alkylation [2]		Butane isomerization [2]		Aviation gasoline [2]	
	Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Nov. 1, 1944		Nov. 1, 1944		March 1945	
	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent
Standard—Indiana:																		
Savannah, Ga.[23]	4,000		4,000															
Wood River, Ill.	21,700		26,000		6,410		6,400				10,000		3,145		1,445		6,510	
Whiting, Ind.	119,000		132,000		47,700		48,000						3,600		1,700		13,010	
Neodessa, Kans.	7,400		7,700		2,640		2,640											
Destrahan, La.[24]	10,000		[10] 16,000															
Superior, La.[25]	4,500		[10] 4,500		1,200		1,200											
Baltimore, Md.[26]	8,000		8,000															
Sugar Creek, Mo.	21,800		25,000		6,260		7,000											
Texas City, Tex.[26]	94,000		100,000		37,000		37,000				15,000		3,500		910		9,950	
Salt Lake City, Utah [27]	8,000		15,000		2,560		2,600				8,500		3,000		750		5,990	
Greybill, Wyo.	4,400		5,000		1,000		1,200											
Casper, Wyo.	13,600		14,000		3,800		4,000											
Standard—Indiana, total	316,400	6.8	357,200	6.9	108,570	9.8	110,040	7.1			33,500	3.3	13,245	8.3	4,805	13.6	35,460	6.9
Standard—New Jersey:																		
Baton Rouge, La.[28]	100,000		130,000		20,250		35,300				40,000		10,000		1,950		34,640	
Baltimore, Md.	32,000		45,000		7,300		14,000				15,000		3,500				9,190	
Everett, Mass.[29]	30,600		35,000		7,720		7,700											
Billings, Mont.[30]	(31)		8,500				800											
Cut Bank, Mont.[30]	(32)		4,000		(32)		850											
Bayonne, N. J.	124,000		136,000		30,300		31,500				12,000						2,890	
Charleston, S. C.	5,000		6,000															
Baytown, Tex.[33]	140,000		190,000		30,000		36,000				27,000		5,735		1,800		37,130	
Ingleside, Tex.[33]	25,000		31,500		5,000		[7] 4,000											
San Antonio, Tex.[33]	5,000		7,000															
Lovell, Wyo.[30]	(31)		2,500															
New Castle, Wyo.[30]	(34)		1,500		(34)		950											
Kalispell, Mont.[30]	(31)		[7] 1,200															
Neches, Tex.[33]	5,000		5,000															
Worland, Wyo.[30]	(31)		[7] 400															
Standard—New Jersey, total	466,600	9.9	603,600	11.6	100,570	9.1	131,100	8.5			94,000	9.3	19,235	12.1	3,750	10.6	83,850	16.3
Standard—Ohio:																		
Latonia, Ky.[35]	11,000		14,100		4,600		5,300											
Toledo, Ohio	18,500		20,000		9,800		7,200						900				3,140	

Lima, Ohio	8,000		10,500		3,000		4,000											
Cleveland, Ohio	23,000		29,000		8,000		10,000				20,000						2,800	
Standard—Ohio, total	60,500	1.3	83,600	1.6	25,400	2.3	26,500	1.7			20,000	3.0	900	.6			5,940	1.2
Sun:																		
Toledo, Ohio	25,000		35,000		13,000		12,000		5,000		17,000							
Marcus Hook, Pa	82,000		125,000		42,500		24,000		80,000		95,050		4,900				19,540	
Yale, Okla	5,000		[7] 5,000															
Sun, total	112,000	2.4	165,000	3.2	55,500	5	36,000	2.3	85,000	58.3	112,050	11.1	4,900	3.1			19,540	3.8
Texas:																		
Fillmore, Calif	4,000		4,000		900		1,000											
Wilmington, Calif	37,000		40,000		3,400		13,700				17,000		3,700				10,080	
Craig, Colo	2,000		3,000		2,300		1,500											
Lawrenceville, Ill	23,000		33,000		6,000		8,700											
Lockport, Ill	36,000		50,000		12,500		15,500						1,688		730		3,300	
Pryse, Ky.[36]	3,000		5,000		1,000		2,000											
Sunburst, Mont	6,000		7,500		2,000		2,500											
West Tulsa, Okla	16,000		22,000		6,800		6,000											
Houston, Tex	25,000		27,500		1,000		1,000											
Amarillo, Tex	7,000		7,500		2,400		2,400											
El Paso, Tex	2,000		2,500		800		1,000											
Port Arthur, Tex	135,000		135,000		48,000		58,000				28,000		11,330		2,800		28,600	
San Antonio, Tex	5,000		6,000		2,000		2,200											
West Dallas, Tex	20,000		15,000		6,900		5,200											
Port Neches, Tex	36,000		40,000															
Calpet, Wyo.[37]	300		400															
Casper, Wyo	7,000		7,000		3,600		3,600											
Cody, Wyo	3,000		3,000															
Claymont, Del	3,500		[10] 3,500															
Providence, R. I	3,500		[10] 3,500															
Norfolk, Va	2,000		[10] 2,000															
Shreveport, La	7,000																	
Texas, total	383,300	8.1	417,400	8	98,300	8.9	124,300	8.1			45,000	4.4	16,718	10.5	3,530	10.0	41,980	8.2
Tide Water:																		
Avon, Calif	42,000		60,900		7,580		48,500				15,000		4,200		[39] 1,830		16,110	
Ventura, Calif.[38]	5,000		4,600															
Santa Maria, Calif			1,200				900											
Watson, Calif	14,000		14,000		400		8,200											
Bayonne, N. J	55,000		70,000		8,300		28,000				27,000						2,970	
Drumright, Okla	12,000		2,500		5,000													
Tide Water, total	123,000	2.6	162,700	3.1	18,780	1.7	90,600	5.9			42,000	4.2	4,200	2.6	1,830	5.2	19,080	3.7

See footnotes at end of table.

TABLE 9. *Refining capacity*—Continued

Major companies	Crude oil capacity [1]				Cracking capacity [1]				Catalytic capacity [2]				Alkylation [2]		Butane isomerization [2]		Aviation gasoline [2]	
	Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Jan. 1, 1940		Jan. 1, 1945		Nov. 1, 1944		Nov. 1, 1944		March 1945	
	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent	Barrels	Percent
Union:																		
Maltha, Calif.	5,000		[7] 7,500															
Oleum, Calif.	34,000		40,000		3,800		6,200											
Wilmington, Calif.	57,000		60,000		3,600		10,000				27,000		3,850		1,500		11,030	
Cut Bank, Mont.[40]			3,500				1,200											
Union total	96,000	2	[10] 167,000	3.2	7,400	.7	[10] 21,355	1.4			27,000	2.7	3,850	2.4	1,500	4.3	11,030	2.1
Major company totals	3,580,300	75.8	4,273,480	82	928,818	84.1	1,319,985	85.8	146,000	100	889,050	88.2	130,333	82	28,869	81.9	455,630	88.8
Grand total	4,721,213	100	5,200,000	100	1,104,289	100	1,537,315	100	146,000	100	1,008,650	100	158,963	100	35,234	100	512,860	100

[1] 1940 figures from B. of M. survey and 1945 figures from Oil & Gas Journal March 31 1945.
[2] U. S. Department of Commerce report.
[3] Arkansas Fuel Oil Co.
[4] Cities Service Refining Corp.
[5] Cities Service Oil Co. (Pennsylvania).
[6] Cities Service Oil Co. (Delaware).
[7] January 1, 1944, capacity from Oil & Gas Journal used.
[8] Dismantled.
[9] Sold to Premier Oil Refining Co. of Texas.
[10] Moody's Manual—Industrials—1945.
[11] American Mineral Spirits Co.
[12] Plant owned by Terminal Refining Co. in 1940.
[13] Operated by East Texas Refining Co. in 1940.
[14] General Petroleum Corp.
[15] Included in East St. Louis.
[16] Abercrombie & Harrison (one-half owned by Magnolia Petroleum Co.)
[17] Magnolia Petroleum Co.
[18] Abandoned 1943.
[19] Gilmore Oil Co. Inc.
[20] American Bitumuls Co.
[21] Coltex Refining Co.
[22] Standard Oil Co. of Texas.
[23] Mexican Petroleum Corp. of Georgia.
[24] Pan American Petroleum Corp.
[25] Stanolind Oil & Gas Co.
[26] Pan American Refining Corp.
[27] Utah Oil Refining Co.
[28] Standard Oil Co. of Louisiana.
[29] Colonial Beacon Oil Co.
[30] Carter Oil Co.
[31] Owned by Yale Oil Corp. in 1940.
[32] Owned by Northwest Refining Co. in 1940.
[33] Humble Oil & Refining Co.
[34] Owned by Consumers Oil & Refining Co. in 1940.
[35] Latonia Refining Co.
[36] Plant sold to Ashland Oil & Refining Co. March 1945.
[37] California Petroleum Corp.
[38] Seaside Oil Co.
[39] Of this 110 barrels per day is pentane isomerization.
[40] Glacier Production Co.

Mr. HARDEY. Mr. Chairman, may I ask the witness a question, please?

The CHAIRMAN. Yes.

Mr. HARDEY. It has nothing to do with those figures, but it has come up recently down in our country. You heard Mr. Brown testify a while ago about the advances made in the matter of utilizing properties for the purpose of recycling and other conservation matters, in our southern fields, particularly in gas distillate fields.

I have been informed recently that the Justice Department has agents or investigators investigating the legality of their voluntary agreements entered into by the operators of various fields for the purpose of furthering these conservation projects. I would like to ask if you have knowledge of the purpose of the policy of the Justice Department in making such investigations, with the possible view of violation of the antitrust laws. Do you have any such knowledge?

Mr. SNYDER. I know of a specific investigation of a very small unit operation as a result of a specific complaint. As an over-all picture, we are not investigating unit operations or cooperative efforts on production.

Mr. HARDEY. I asked that, Mr. Chairman, for the reason that in my opinion any such investigations and even the mere mention of an investigation acts as a deterrent on operators getting together to serve a common good and a common purpose in the furthering of conservation.

The CHAIRMAN. Mr. Hardey, I assume that we will all have to agree that if a citizen, even an oil operator, should make a protest or complaint to the Department of Justice which on its face seems to be within the prohibition of the law, then the Department of Justice has no recourse other than to investigate that complaint.

Mr. HARDEY. I am delighted to have him state to me that that investigation is a result of that. We were fearful that it was a policy of the Department of Justice actively to get after these agreements on unitization.

Senator MOORE. You just want to keep a watch on him?

Mr. SNYDER. We are not as bad as you thought we were?

Mr. HARDEY. I am just asking that question as a matter of information. It has no reflection at all on this gentleman.

The CHAIRMAN. Your next witness, Mr. Fell, will be Mr. Bailey?

Mr. FELL. He will be Mr. Bailey, Mr. Chairman.

The CHAIRMAN. The committee will adjourn until 10 o'clock tomorrow morning.

(Whereupon, at 4:35 p. m., an adjournment was taken until 10 a. m., Wednesday, March 20, 1946.)

THE INDEPENDENT PETROLEUM COMPANY

WEDNESDAY, MARCH 20, 1946

United States Senate,
Special Committee Investigating Petroleum Resources,
Washington, D. C.

The special committee met, pursuant to adjournment, at 10 a. m., in room 318, Senate Office Building, Senator Joseph C. O'Mahoney (chairman) presiding.

Present: Senators O'Mahoney(chairman), Moore, and Willis.

Also present: Henry S. Fraser, chief counsel to the committee.

Appearances: (The same as heretofore noted, with the following addition:)

Charles B. Rayner, petroleum adviser, Department of State.

The Chairman. The committee will please come to order.

Mr. Fell, are you ready to proceed?

Mr. Fell. Yes, Mr. Chairman; we are ready to proceed. Mr. Bailey will be our next witness.

STATEMENT OF O. C. BAILEY, EL DORADO, ARK.

Mr. Bailey. Mr. Chairman and gentlemen of the committee, my name is O. C. Bailey. I reside in El Dorado, Ark., and I am an independent producer of oil and gas. I have been continuously engaged as such for the past 23 years, operating my own properties. From 1937 to 1939 I was chairman of the Arkansas Board of Conservation. With the passage of our present conservation law in 1939 I became chairman of the Arkansas Oil and Gas Commission and have served in that capacity to the present time. During the period of World War II, 1942 to 1945, I served, under appointment by the Petroleum Administrator for War, as a member of the National Conference of Petroleum Regulatory Authorities. For several years I have represented the Governor of Arkansas on the Interstate Oil Compact Commission.

I shall attempt to portray to the committee conditions as they exist in the producing end of the petroleum industry and particularly as they affect the independent operator who produces oil and gas and is not engaged in transportation, refining, or marketing of products.

There are approximately 20,000 such individuals and small companies engaged in the search for, and the development and production of, oil and gas. The percentage of total oil found by this group is not easily determinable, but I think I may safely say the independents are responsible for more than 50 percent of the oil discovered in the United States. The record they have achieved has contributed in no small measure to the economic and industrial progress of the

Nation, and has been the result largely of individual initiative operating in a free economy.

Mr. FRASER. Do you mean that half of the oil that is currently discovered is discovered by independents, or half of the oil that has been historically discovered was discovered by independents?

Mr. BAILEY. The statement is that over half of the oil that has been discovered during the entire period in the past has been discovered by the independents. [Resuming:]

They have the courage and spirit of the pioneer; they either spend their own money on wildcat wells or obtain the cooperation of other small and large operators in the financing of such wells with the hope of discovery. They do not have to consult with others before making decisions. For that reason, they form a virile group whose competitive efforts produce results.

The CHAIRMAN. What do you mean by the reference to consultation with others, Mr. Bailey?

Mr. BAILEY. An individual operator does not have stockholders. In other words, he manages his own business. When the proposition is put up to him in regard to the drilling of a well he makes up his own mind.

The CHAIRMAN. That is the outstanding characteristic of free enterprise where the man risks his own capital.

Mr. BAILEY. That is right, he risks his own capital and he naturally makes his own decisions. [Resuming:]

They glory in their successes and they also chalk up losses and disappointments. If the domestic petroleum industry is to survive and make progress and continue as an important element in the national economy, this pioneering spirit must not be dampened, and individual initiative must not be killed. In formulating a national oil policy, full recognition must be given to these facts if the stability of the domestic industry is to be maintained.

The CHAIRMAN. May I interrupt you, Mr. Bailey, to say how pleased I am to have you make a statement of that kind?

Mr. BAILEY. Thank you, sir.

The CHAIRMAN. I agree with you completely, that a fundamental aspect of the national oil policy, or indeed of any commercial policy, should be the encouragement of individual initiative.

Mr. BAILEY. That is especially true in oil. [Resuming:]

During recent years, vast changes have taken place in the finding and producing of oil and gas. Fortunately, these changes have been in the interest of progress. A generation ago, our oil fields were located largely from surface indications and oil was produced from structures of shallow depth.

The earliest wells were drilled in the vicinity of oil and gas seeps. Soon it was observed that production followed certain trends and surveying instruments were used to keep new locations on line with completed wells. The next step was the important discovery that accumulations of oil and gas were closely associated with anticlinal folds and locations were made on the basis of the strike and dip of the rocks exposed at the surface.

As more wells were drilled and the elevations of definite underground formations determined, the mapping of subsurface structure became of increasing importance, especially where adequate surface exposures were nonexistent. Refinements in this type of delineation

were developed and microscopic paleontology shortly became another important tool in the tracing of underground formations from well to well.

Shortly thereafter, geophysics appeared as an integral part of underground mapping, in the form of the torsion balance, the seismograph, the magnetometer, and the gravity meter.

To further intensify the search for favorable structural conditions and for the purpose of locating productive horizons in holes drilled by rotary tools, devices were developed for the constant analysis of the circulating muds for indication of oil and gas. Electrical instruments were developed for determining the porosity and permeability of the formations penetrated, instruments also capable of differentiating between sands containing oil and gas and those containing water.

More recently devices have been perfected for the use of gamma rays and neutrons in locating the precise depths of oil and gas horizons in well bores.

The CHAIRMAN. May I interrupt to ask whether in your opinion the development of these new techniques and new devices constitute a handicap for the independent operator?

Mr. BAILEY. No. On the contrary, these devices give aid and encouragement. Twenty or thirty years ago they missed and passed up oil sands in areas that were drilled with the instruments they then used, and we go back there now with improved devices and discover oil.

The CHAIRMAN. Isn't it rather expensive business to use the seismograph, for example?

Mr. BAILEY. The seismograph is an expensive operation, but a number of individual independents use it.

The CHAIRMAN. There must be a lot of capital available to use that device.

Mr. BAILEY. Yes, to use the seismograph, because it is a rather expensive proposition to keep the seismograph in the field.

The CHAIRMAN. Does the independent use the seismograph?

Mr. BAILEY. He does. Many of them do.

The CHAIRMAN. It must be those who are equipped with capital.

Mr. BAILEY. With ample capital, that is correct.

The CHAIRMAN. Does that have the effect of making it necessary for the independent to have a larger amount of capital than formerly?

Mr. BAILEY. He does. He can operate better with larger capital.

The CHAIRMAN. Could you compare the minimum amount of capital needed now for an independent to start an exploratory program with the minimum amount that was necessary, say, 20 or 25 years ago?

Mr. BAILEY. It requires more capital, for the reason that wells are deeper now, and also the structures that were located in the early days on surface indications of oil have all been drilled up. In searching for the deep reservoirs it costs more money. It takes more money than it did years ago.

The CHAIRMAN. Would it, in your judgment, be necessary in formulating a national oil policy to take that fact into consideration, if one wants to set up conditions that will encourage the independent operator and keep him in business?

Mr. BAILEY. I think so.

Mr. JACOBSEN. I might say, if I might interrupt, the seismographs, and all of the other physical methods, are available to anybody who

wants to hire them. In other words, the independent producer need not maintain a seismograph crew of his own; he can hire one for a week or two weeks or a month.

The Chairman. The same condition exists there that exists, for example, in the use of the gamma rays?

Mr. Jacobsen. Quite right.

The Chairman. And an independent operator does not have to equip himself necessarily with these instruments and devices?

Mr. Jacobsen. Quite right.

The Chairman. The development in the industry has been such that they are available from organizations which devote their entire attention to the use of these instruments?

Mr. Jacobsen. Quite right. Those services are so efficient and generally desirable that many companies which could quite well afford to do it prefer to hire them. For instance, our company could have its own gamma ray outfit, but it is simpler and cheaper for us to hire the people when we need them.

The Chairman. Would it be possible to secure for the record a list or at least an approximation of the number of organizations which undertake to perform these services?

Mr. Jacobsen. That can be got together. I do not think we have it ready, but it can be compiled.

The Chairman. I think it would be helpful to the committee if it could be done.

Mr. Jacobsen. I would like to mention this, while we are on the subject. Even the larger companies, which have a number of seismograph crews of their own, frequently supplement their own crews with hired crews. I mention that to indicate that those crews are just as competent and just as reliable in their findings as the crews used by the large companies.

Mr. Fell. I might make this observation, too, Mr. Chairman, that Mr. Becker will go into that in his paper. He will show these costs have gone up very greatly, and there is only one answer to it, that is, to have more money per barrel for oil in order to get the money to meet these increased costs.

The Chairman. Is the OPA around today?

Senator Willis. Mr. Bailey, you made a very important statement here, showing the relative importance of independents in the producing field, showing it was necessary for the stability of the industry. In your opinion, what part have they played in the development of these facilities? Have the independents produced many of these things, as much as the large corporations?

Mr. Bailey. In fact, many of these instruments were developed by independents. For instance, the first device for testing a well without running a string of a casing—we call it a drill stem testing tool—was developed by an independent operator. Many of these instruments have been developed by the independents.

Senator Willis. Due to the fact they had to conserve their own dollars?

Mr. Bailey. That is right. It is just a case of individual initiative.

Senator Willis. That is more prominent in the independents who have had to invest their own capital than it is in the case of one of the large industries; is that right?

Mr. BAILEY. Well, it would be hard to generalize on the statement, but it is true in many instances.

Mr. JACOBSEN. Maybe I could get a little ad for myself in here. The Senator asked whether or not these instruments have been developed largely by independents or majors. The most important instrument, the one that has found the greatest number of oil fields, is the reflection seismograph that was developed by the company I represent. We are independents. I wanted to get that into the record.

The CHAIRMAN. Let us get the name.

Mr. JACOBSEN. What I say is right, isn't it, Mr. Fell?

Mr. FELL. That is right.

The CHAIRMAN. Let us finish the plug. Put the name of the company in the record.

Mr. FELL. The Amarada Petroleum Corp.

Captain FRANCHOT. Mr. Chairman, I think somebody ought to speak up on behalf of the engineering profession, because many of these things have been done by independent engineers.

Senator WILLIS. Employed both by independents and majors?

Captain FRANCHOT. Sometimes on their own, sometimes employed by independents, and sometimes by majors. I am not an engineer, but I would like to put this plug in for that profession.

The CHAIRMAN. I think it would be helpful if we had somebody make a formal statement on the record on this phase of the problem. I looked around here for some representative of the Geological Survey when the point came up, but they appear not to be here this morning. I understand there is a hearing going on in the House on the price of crude oil this morning. That may have drawn some of our attendance.

Mr. FELL. I think, Mr. Chairman, that Mr. Bailey can probably get this information together within the next 24 hours. Take the Halliburton Oil Well Cementing Co. I can remember when Earle Halliburton cemented the first string of casings and it now is the largest oil well casing cementing outfit in the world. That was just started by a mechanic.

The CHAIRMAN. How long ago?

Mr. FELL. About 1923 or 1924, along in there.

Mr. BAILEY. Also in the late twenties there was a drilling contractor in my own town by the name of Johnson who invented and perfected the first device for making a drill stem test.

The CHAIRMAN. Let me ask, Mr. Fell, how large is this largest company in the world that was started by the mechanic 23 or 24 years ago?

Mr. FELL. I could not say how many million capital they have. I am not a stockholder in it.

The CHAIRMAN. This is not another plug?

Mr. FELL. No.

The CHAIRMAN. Well, you speak of it as having capital that can be measured in the millions.

Mr. FELL. Yes. They started with nothing. Senator Moore remembers them. Earle Halliburton started it.

The CHAIRMAN. It is a very interesting story. All right, proceed, Mr. Bailey.

Mr. BAILEY. A generation ago the trained geologist was an oddity in the oil industry and the use of geophysics in oil finding little more than a dream. By the end of 1943 a survey made by the American Association of Petroleum Geologists revealed that irrespective of those in the armed services, over 2,500 of its members were actively engaged in the search for oil within the United States. Approximately one-half were employed by larger companies, about one-fifth were associated with small companies, one-quarter were operating as consultants of independents, and the remainder were listed as members of geophysical crews.

The independent oilman is definitely in step with the trend toward scientific oil finding for he knows that from the standpoint of the industry and from that of the public which pays the bill, it is a good investment. In 1944, 91.5 percent of the 4,550 exploratory wells in the United States were drilled either on direct geologic or geophysical data or a combination of both; 21.8 percent of the wells so drilled were successful compared to but 8.4 percent of successful completions among the 752 wildcats drilled upon nontechnical or unknown data.

In the early days of the industry the ratio of dry holes as compared to discoveries was high, because many operations were carried on without the help of scientific exploration, and on a hit-or-miss basis. Because the wells were shallow, lightweight machinery was employed, light pipe was used to case the wells, and the cost of drilling and producing the wells was comparatively cheap. Wage scales in all branches of the industry were much lower than they are now. Under these conditions many prolific shallow fields were discovered.

As these fields became depleted, the search for oil at constantly increasing depths continued. The increased depth has resulted in an increase in the cost of drilling per foot, as well as additional footage drilled. The costs of material have increased, because more strings of casing are necessary and pipe of greater tensile strength must be used to withstand heavier pressures. High pressure control equipment is necessary to produce the wells and heavier and more costly machinery and transportation equipment is needed to carry on operations.

During the period when these shallow fields were developed, it was the practice to produce the wells at a rapid rate and the rate of production was controlled only by the ability of the purchasers of crude oil to move the oil to refineries. Under these conditions, the independent producer did not need a large outlay of capital as his wells soon paid for themselves, and a comparatively small amount of working capital could soon develop a lease and at the same time create a surplus for wildcatting purposes.

As the search for oil continued at deeper depths, the problems of the independent producer multiplied. His cost went up and drilling and development of deep wells called for a greater outlay of capital. The development of petroleum technology during this period changed the whole method of producing oil. It was learned that if the flow of oil wells is controlled, greater ultimate recovery of oil will be had. The restriction of the rate of production, while beneficial in the long run, lengthens the time during which an operator can recover his capital.

During this period of transition in the industry, the market demand for oil accelerated. The rapidly expanding automobile industry created a need for gasoline and lubricating oil. The development of other types of internal-combustion engines required Diesel oil and distillates. Agriculture became mechanized. Many power plants, factories, and railroads turned to oil for fuel. In spite of the greatly increased market demand for oil, the petroleum industry was able to keep pace with rapidly expanding industrial development in this country. By 1920 the demand for petroleum and its products was 85 times as great as it had been in 1870.

In the midst of this expansion, we entered World War I in 1917. It was quickly realized that the United States would have to furnish the bulk of the oil needed to win the war for the Allied Nations. This it did, and did it so well that it was said by those in authority that the Allies literally floated to victory on a sea of oil. In doing so, however, the visible underground reserves of this country were sadly depleted, and the United States was faced with a serious shortage of petroleum in the postwar period. Consumptive demand exceeded our ability to produce. The posted price of oil jumped to $3.50 per barrel in the Mid-Continent area and in some instances premiums of 75 cents a barrel were paid over and above the posted price. Many in government and some in industry raised the cry that we had found most of the oil in this country, and the only solution was to employ American capital in other parts of the world in search for new petroleum reserves so as to provide oil for American markets. The independent producers who up to that time had discovered and produced a major portion of the oil, quickly realized that if this policy prevailed, they would be subjected to unfair competition or put out of business. They could not go into foreign lands. They learned that search for oil in other countries was carried on under big Government concessions, and large operating capital was necessary to carry on operations on such a scale. That meant that only the large integrated companies could produce foreign oil. They realized too, that operating conditions were different in other nations. Wage scales were lower and individual well productivity generally higher. The foreign governments own the minerals under their lands and it is not necessary to carry on competitive development to protect the property rights of private owners. All of this meant that the foreign producer could produce oil and ship it into this country cheaper than the industry in the United States could produce domestic oil. They knew, then, that if this were permitted, it would sound the death knell to the domestic producer, and make this Nation dependent on foreign sources for its domestic supply.

Then for the first time in over a half century of operations the independent producers joined together to meet a common problem. They made the plea that there was a lot more oil to be discovered in the United States. They asked Congress to formulate a policy of encouragement rather than discouragement to the producers, and it is to Congress' everlasting credit that it heeded the plea.

Soon after the first World War, Congress took two important steps which have served to stabilize the American petroleum industry, and to make possible the discovery of immense oil and gas reserves which was to contribute to the welfare and security of this Nation in the years to follow.

In 1918 Congress realized that if the oil reserves of this country were going to be increased and if productive capacity was to keep pace with growing markets, the producer must have some incentive to plow back some of his funds into the business in search for new oil to replace that which had been produced and consumed. It realized that drilling wildcat wells is a hazardous business and that new reserves must be found at deeper and deeper levels at constantly increased cost.

It was at this time that Congress enacted legislation permitting deductions for income-tax purposes covering discovery depletion, later changing so as to permit percentage depletion on the basis of 27½ percent of a producer's income from sales of oil and gas, limited to 50 percent of the net income. In 1932 it levied an import tax of 21 cents per barrel on foreign oil, thus alleviating to some degree the unfair advantage enjoyed by low-cost foreign oil. Prior to these acts of Congress the Treasury Department in 1917 issued a regulation which has been enforced ever since that time, giving the producer the option to expense or capitalize intangible drilling costs.

Mr. Fraser. Do you really mean to say "unfair advantage"? Would you not just say "advantage" without the adjective "unfair"?

Mr. Bailey. I think it is an unfair advantage for it to come in competition with the domestic industry.

Mr. Fraser. Well, it is an advantage, to be sure, but I do not think it enters the realm of morals; do you?

Mr. Bailey. Well, that depends on how you look at it. Perhaps a person in the oil business as an independent would look at it a little differently than you would.

The Chairman. This is the consumer speaking this morning.

Captain Franchot. If you protect other commodities and other industries, why could not you protect this industry?

Mr. Bailey. This country has had a tariff in years past to protect the manufacturers in this country. [Resuming:]

The independent producer, encouraged by the acts of Congress and the Treasury Department, and provided with necessary risk capital, rolled up his sleeves and went to work. How well he succeeded is shown by the fact that our reserves increased from less than 7,000,000,000 barrels at the close of World War I to over 20,000,000,000 barrels at the present time, although we have produced and consumed 25,000,000,000 barrels during this period. The two decades from 1920 to 1940 saw the market for oil increased from 1,000,000 barrels per day to nearly 4,000,000 barrels. The industry not only met the needs but also managed to accumulate underground reserves which might be used in an emergency, and which would serve to tide the consumer over periods when new discoveries might slow down.

The Chairman. Perhaps it may be appropriate for me to interrupt here to say that one of the reasons why I introduced the bill, which became the Act of December 24, 1942, providing for a flat royalty of 12½ percent on exploratory Government leases, a flat royalty for 10 years, was to encourage the investment of risk capital and to stimulate the search for new sources of oil. The law has served its purpose by stimulating exploration. In my own State, I think about 80,000,000 barrels of new oil have been added to the estimated reserves. That is the reason I feel that in the pending bill to modify the leasing on the public domain, there ought to be a provision which would continue that policy. Certainly the United States never needed new

sources of oil more than it needs them now. It never needed more to encourage the investment of risk capital than now. I think a flat 12½ percent royalty for exploratory leases upon the public domain would be a very material step toward bringing about what I conceive to be desirable ends.

Mr. BAILEY. It would encourage development in the public land States.

The CHAIRMAN. Precisely.

Mr. BAILEY. (resuming). In order to accomplish this accumulation, a sound conservation program was instituted. Waste of oil and gas was reduced to a minimum. Technical studies of reservoir performance were made. Petroleum engineering introduced new methods of drilling wells, making well completions, and then producing the wells after completion.

It was found that if wells were properly produced, natural forces could be utilized to increase the amount of oil which would ultimately be recovered from oil reservoirs. It was found that gas existed in solution with oil in the reservoir, and that by restricting the rate of production, this gas, which was formerly allowed to blow out of the wells at rapid rates, could be used more effectively as a propelling factor to flow wells longer. Many fields had gas caps above the oil and by proper well completion and control of rate of flow the expansion of this gas prolonged the flowing life of the wells and increased ultimate recovery of oil from the reservoir. Many fields had oil which was backed up by salt water which exerted a hydrostatic pressure against the oil and served to help force the oil through the formation into the bore of the well. The science of petroleum engineering developed the use of these natural forces, and often a combination of them, to increase recoveries.

The drilling of deeper fields brought about the discovery of immense natural gas fields along with oil fields and the accumulation of those natural gas reserves resulted in the building of thousands of miles of pipe lines to transport the gas to all parts of the country. Gas heats millions of homes and is used as a fuel in factories and for the generation of power. The producers of oil and gas are engaged in a program of real conservation of this important fuel. Preventable waste has in a large measure been eliminated and exists only in a few areas. Reserves for future market are maintained by cycling gas in reservoirs and extracting liquid hydrocarbons, preserving the marketable gas for future consumption. Present natural gas reserves are estimated to be sufficient to furnish the present market requirements for a period of over 35 years even though no more gas were discovered. We are now perfecting techniques in the synthesis of methane (dry gas) into high octane gasoline, which can approximately double the supply of gasoline available. But this didn't just happen. It is the result of studied cooperation by the producers of oil and gas.

In order that these conservation practices might be carried on in an orderly manner, and to protect the correlative rights of land and royalty owners and for the protection of the operator himself, it was necessary to have legal regulation. Conservation laws were passed by the different States having oil production. Regulatory bodies were established and vested with discretionary authority to cause proper observance of recognized conservation practices.

These laws were perhaps not adequate at first but they have kept pace with the developments in petroleum engineering and with improved methods of the production of oil and gas. Oklahoma was the first State to adopt a provision in its conservation laws requiring the pooling of separate tracts within a drilling unit. This was an important milestone in the progress of conservation. States which have adopted conservation statutes since that time have included this provision in their laws. It should be included in the conservation laws of all oil producing States. This means that each owner can secure his fair share of the oil in the common reservoir without the necessity of drilling a large number of unnecessary wells. It also enables the regulatory authorities to maintain a better check on the performance of the reservoir. The formation of low-pressure areas within the reservoir is avoided and ultimate recovery is increased. This has proved to be greatly in the public interest.

The industry recognized the necessity of regulation, because in any industry there are always some elements which do not recognize the value of conservation and will not cooperate voluntarily for the common good. The several States which have oil production should regulate production within their own borders, as they know their local problems better than any centralized Federal authority, and this authority should remain in the States.

For the purpose of securing greater coordination on conservation practices between the several States, the Interstate Oil Compact Commission was authorized by Congress in the year 1935. Originally, it was ratified by six States but the membership has increased until today 17 oil-producing States representing approximately 90 percent of the natural gas and 80 percent of the oil production of the Nation are members. It is in fact a group of sovereign States cooperating together on a voluntary basis, to help each other solve their individual problems relating to the conservation of an irreplaceable natural resource. It also fosters an educational program showing the need for conservation. Thousands of men and women have been made conscious of the conservation of oil and gas by seeing its motion picture, Oil for Tomorrow. The Commission is now publishing a book called Oil in Your Future, which is in truth a handbook on conservation and should win even wider public approval.

The Congress has materially aided the States in the administration of their conservation statutes by the enactment of the Connally Hot Oil Act.

In addition to helpful laws and regulations of the Federal and State governments, each operating within its separate and proper sphere, the free play of competitive forces within the petroleum industry has evolved and firmly established procedures by which crude oil is marketed and which have not only been helpful to the producer, but have been highly beneficial to the public. The preservation of free competition among purchasers of crude oil is of vital importance to the independent producer.

The CHAIRMAN. Yesterday, when Mr. Hardey was testifying, I asked him a question or two about markets. I would like to ask the same questions of you. His response, as I recall, was that principal sales of the independents were made to the majors. Is that your experience?

Mr. BAILEY. Sales of producing properties by independent producers?

Mr. FELL. The oil.

Mr. BAILEY. You mean the sales of the oil?

The CHAIRMAN. Yes.

Mr. BAILEY. That is correct. I do not know the exact figures, but the refineries of the country are owned largely by the major oil companies, at least a large percentage of the refining capacity.

The CHAIRMAN. Is that situation conducive to the best results for the producer?

Mr. BAILEY. It has always been my thought that we needed to have independent refiners in addition. In other words, we need that competition in the industry.

The CHAIRMAN. Well, the independent refiner, as a usual thing, does not have the gathering lines that are available to the so-called majors, isn't that a fact?

Mr. BAILEY. That is true. Their gathering systems are not as extensive, as a rule.

The CHAIRMAN. How much of the independently produced crude, from the plain geographical facts, must necessarily be delivered to the pipe lines of the majors?

Mr. BAILEY. I do not have the figures for the Nation as a whole, but I can give you the figures for my own State of Arkansas.

The CHAIRMAN. I think that would be very interesting.

Mr. BAILEY. Our total production of crude is about 78,000 barrels per day at the present time, and about 40,000 barrels, or approximately one-half of it, is consumed by independent refiners situated in the crude producing area of south Arkansas, and the other one-half is shipped out of the State, the larger part of it going to major companies.

The CHAIRMAN. Sometimes, of course, the refinery is built close to the source of supply and sometimes it is built close to the market.

Mr. BAILEY. That is right.

The CHAIRMAN. I think that, by and large, my information is that the refineries of the major companies are likely to be found near the market and equipped with gathering lines, whereas the refineries of the independents are likely to be found close to the sources of the supply, and do not have the pipe lines. Is that correct?

Mr. BAILEY. Generally speaking, that is correct.

The CHAIRMAN. Now, what is the effect of that situation upon the independent in the industry?

Mr. BAILEY. I think it is highly beneficial to him. Sometimes a new field comes in—I know in the past it has been that way—and the independent comes in with his refinery and it gives a market for that, maybe in an area where there have been no pipe lines laid to that area, and somtimes the independent refiners develop new uses, perhaps, for oil, and find that the oil is more valuable and the producers get more for their crude.

The CHAIRMAN. Whenever oil is discovered and the area is not equipped with refineries, there is always a public clamor for the construction of refineries near the source of supply. There is always a public reaction against the exportation of the crude oil beyond the boundaries of the State for refining in distant refineries. Has not that been your experience?

Mr. BAILEY. It has happened; yes, sir.

The CHAIRMAN. Then is it true that the independent refiner is the one who most effectively responds to that thought in the public mind?

Mr. BAILEY. He does. I do not know whether it is caused by any public reaction.

The CHAIRMAN. I know in my own State there are major refineries and there are some minor refineries.

Mr. BAILEY. Yes. Well, in the State of Mississippi, which has recently come into the picture as an oil-producing State, there was some clamor there for not exporting any oil outside of the State. Of course, pipe lines have been laid out of the State, but independent refineries have been built in the State, too.

The CHAIRMAN. It is your conclusion, then, I take it, that the independent refinery tends to create a better market for the independent producer?

Mr. BAILEY. I definitely believe it; yes, sir.

Mr. ENGLAND. Mr. Chairman, right in that connection, I think the 75-cent premium per barrel that was paid in World War I was paid by the independent in order to get supplies. Is that correct?

Mr. BAILEY. It was paid by the independents. In fact, prior to the 1930's, back during the 1920's, the way we usually got a crude raise was due to the fact that an independent refiner would pay premiums and take connections from the major oil companies, and then they would raise the posted price.

Mr. JACOBSEN. I would like to say a word about that. I do not know whether it has been made clear.

Generally speaking, the independent refiner pays the same price. It is true that quite a few years ago the situation that was mentioned did prevail, that the independent refiners would usually take the lead in paying a higher price. But I think I am safe in saying for the last 15 or more years the price has generally been the same. Don't you agree with that?

Mr. BAILEY. I would say during the last 10 years, in the early 1930's there was a little discrepancy in premium paying. I know that from my own experience.

Mr. JACOBSEN. At least for the last 10 years the same price has been paid.

Mr. BAILEY. For the last 10 years the price has been the same.

The CHAIRMAN. That raises the familiar question of price leadership.

Mr. BAILEY. That is right.

The CHAIRMAN. I assume that subject will, to some extent, be discussed by Mr. Becker when he presents his paper on costs and price of oil.

Mr. JACOBSEN. I would also like to mention this point: The independents sell the major portion of their production to the major companies because there are not enough independent refineries to take all of their oil. In other words, if the independent refiners took all of their crude from independents only, the latter would still have the major portion of their production left. There are not enough independent refiners to take all of the crude produced by independent producers.

Mr. Fell. Mr. Dow, in in his testimony, shows, Mr. Chairman, the percentage of refining capacity of the 21 largest refiners, and then shows the capacity of the 234, as I remember it, of independent refiners in the country.

The Chairman. I am looking forward with a great deal of interest to Mr. Dow's paper, because I know it is going to be good.

Mr. Majewski. I would like to elaborate on that point.

You were correct in your summation that in the old days the independent built his refinery close to new sources of crude supply, but we no longer do that. In the last 10 years there have been no new refineries built by independents close to the crude sources of supply. We, too, have gone into the large consuming markets and built our refineries, duplicating, in many instances, the facilities of the major companies, because common-carrier pipe-line rates were being reduced constantly, speaking exclusive of the Rocky Mountain territory. I do not say that because you come from Wyoming, but because I understand there is a slight discrepancy in those rates in the Rocky Mountain States, but in the balance of the country we have enjoyed consistently lower pipe-line rates, and have found it more desirable to build refineries where the big market was. In the last 10 years no new refineries have been built at the source of crude supply, but at the market.

Mr. Bailey. May I make a statement?

The Chairman. The floor is yours.

Mr. Bailey. I would like, if I may, to state that is the trend, but there have been some independent refineries built in Mississippi. In fact, Rogers Lacey just completed one.

Mr. Majewski. I could explain that, if I might be permitted to.

When you are close to water—I am talking about inland refineries—when you are close to water it makes no difference where the refinery is, because water is the cheapest form of transportation. You can build your refinery in Mississippi and move the product up the Mississippi, I regret to say, into my market by water.

The Chairman. But I assume, Mr. Majewski, that you are still for competition and you would not keep it out.

Mr. Majewski. I am in favor of it.

Mr. Jacobsen. Mr. Chairman, I believe everybody will realize that it is economically sounder to build your refinery at the market than it is to build it in the field, because the market will always be there, whereas if you build the refinery in the field, or too close to the field, you are dependent for the supply of the oil on that particular field, and when the productive capacity of that field goes down your refinery goes out of business. If you have it at the market you have a permanent installation.

The Chairman. All right, Mr. Bailey; you may proceed.

Mr. Bailey. Generally speaking, the crude-oil pipe lines are owned by what are called integrated companies, some large and some small. They are subject to regulation by State agencies as well as the Interstate Commerce Commission. They are common carriers, subject to the rate-fixing authority of State and Federal Governments; however, they handle only one commodity and serve only those engaged in the production or processing of that commodity. They do not serve directly the general public.

The integrated companies operating such lines, either direct or through a subsidiary or affiliate, are the principal purchasers of the independent producer's oil. When a new field is discovered the producer's first step is to obtain a pipe-line connection. Often the pipe line nearest the field will be extended to the new discovery; however, such is not always the case and frequently as the new field is developed competitive lines enter. In practically all of the major oil-producing areas producers have the choice of a number of competing carriers and purchasers.

As heretofore stated, most of the major oil-producing States have enacted comprehensive conservation laws. Such laws are generally well administered. Most of them provide for limitation of production to market demand to prevent physical waste. The effect of such limitation results in assuring every producer his fair share of the available market. Every time a new well is completed in a pool its place in the market is established and other wells must, if necessary, move over and make room for it.

This well-established procedure forces the pipe lines supplying purchasers with their requirements continuously to extend or to modify their oil-gathering and main-line systems in order that the purchaser—the owner of the pipe line—may be assured sufficient crude to meet its own requirements or the requirements of others to whom it may sell crude. In some instances producers elect to sell to purchasers who have no interest in the pipe line handling the oil and the pipe line moves the oil for hire from the well to the purchaser. However, this practice is the exception and not the rule.

Because of this procedure, ratable takings from all producers is now a well-established practice and in those States having sound conservation laws the producer has few marketing problems. He is assured of:

a. Reasonably prompt pipe-line connections in new fields;
b. Prompt pipe-line connections to all properties within fields;
c. An assured and continuous market; and
d. Ratable takings.

This has resulted in greatly reduced pipe-line rates because the pipe-line company can determine more accurately, needed capacity and in general is assured a longer period of continuous operation in which to amortize its investment.

As a result of the laws, regulations, and procedures described, the producing end of the petroleum industry has not only met all demands of a rapidly increasing market but in addition thereto accumulated a reserve supply underground for an emergency. In 1939 the emergency came. World War II broke out in Europe. The Allies did not have sufficient oil to conduct a mechanized war and we were called upon to provide the deficiency under lend-lease. We continued to do that throughout the war. The petroleum industry was called upon to do its part and how well it did it can best be expressed by quoting the Petroleum Administrator for War:

> Of the 7,000,000,000 barrels of crude oil produced throughout the United Nations since Pearl Harbor, the United States has furnished approximately 75 percent, the Petroleum Administration for War has announced. * * *
>
> Of the 2,600,000,000 barrels of gasoline refined in the United Nations since the Japanese bombed the Hawaiian capital, 82 percent came from the fractionating towers of America. United States refineries produced 85 percent of the aviation gasoline used by the United Nations military forces. It requires

385 refineries working to maximum capacity in the United States under the supervision of the Petroleum Administration for War, and 65 more refineries in the United Nations abroad to supply all the petroleum requirements of military forces and the essential civilian users.

When we look back upon the early part of 1942, when the enemy's submarines bottled up tanker transportation between Gulf ports and the eastern seaboard, and prevented movement of oil from Venezuela, it is not difficult to envision what might have happened if this country had not previously adopted a policy which encouraged the accumulation of sufficient domestic reserves to take care of just such an emergency.

In spite of the fact that the oil producers of the United States have been called upon to draw heavily from their reserves at a price below the cost of replacing these reserves, and in spite of burdensome restrictions made necessary by war, such as shortages of pipe, equipment, and manpower, they have performed nobly, and when the final story of this war has been written, it will be said that the oil producers of this country did their job well and again the United Nations floated and flew to victory on a sea of oil. The oil producers of America feel a pardonable pride in this accomplishment, but they are not satisfied to live just in the present.

In addition to an inadequate price for crude oil, substantially less than replacement cost, and an apprehension of the passage of tax measures that may stifle him completely, the independent oil producer has almost the same problems he has faced for decades. To date he has successfully met the challenge of finding a major portion of the oil reserves necessary to meet the demands of a rapidly expanding economy and with proper encouragement he will be able, I feel sure, through his ingenuity and resourcefulness to continue to do so in the future. He has done so in the past by using each new technique of exploration and development as it has become available to him. He must still finance the many wildcats that he drills by going beyond his own resources and, with his ingenuity and resourcefulness, he has developed many means of accomplishing this objective. He frequently secures help from larger units in the industry, as well as from other independents, in the way of contributions in many forms. Quite often he will get blocks of acreage together and arrange for the drilling of an exploratory well through the cooperation of the landowners and other lease owners in the area. He may buy some oil and gas leases himself or get them donated by the landowners in consideration of his agreeing to drill, or have drilled a well to a certain specified depth. He may then sell some of his leases to larger companies or other independents. He may also get larger companies or other independents, who own acreage in the block, to donate some acreage to him and then sell these leases to others or he may get the owners of the other oil and gas leases in the block to agree to pay him so much money if he drills a well to an agreed-upon depth. These payments are referred to as bottom-hole or dry-hole contributions. A bottom-hole contribution is one wherein the contributor agrees to pay a specified amount if the well is drilled to a certain depth unless oil or gas is found at a lesser depth in paying quantities, irrespective of whether the well is a dry hole or a producer, whereas a dry-hole contribution is one where the contributor only makes the payment in case the well is drilled to the specified depth and is a dry hole. In this manner the

cost of dry holes is spread over the industry and not only do larger units and other independent producers assist in the financing of such exploratory wells but a substantial contribution is also frequently made by the landowners in giving oil and gas leases on their lands or in selling such leases at a nominal price. As in the past, the independent producer still drills his wells or contracts them. The drilling contractors frequently take part of their pay in acreage or in an undivided interest in the acreage owned by the independent producer who is drilling the exploratory well. In this manner the cash that the producer must pay out is reduced.

The CHAIRMAN. Does any of this tend to cripple the free judgment of the independent operator?

Mr. BAILEY. No; it does not.

The CHAIRMAN. He still retains his complete managerial power over the venture?

Mr. BAILEY. Yes; and drills his wildcat as he has in the historic manner for years past, through the same methods. [Resuming:]

Another manner in which the independent oil producer is frequently responsible for the drilling of an exploratory well, which would otherwise not be drilled, is in areas where he finds a large number of leases expiring. In these cases the independent producer will go to the owners of the oil and gas leases and ask each of them to contribute a certain portion of their acreage to him with the understanding that if he can get together a sufficient number of acres to justify the drilling of a well he will drill the well to a specified depth. He will then take the block of acreage that he has acquired and work out a deal with some larger integrated company or some large independent whereby he will give them a certain portion of the acreage or a certain interest in the block if they will drill the well. In other words, the independent producer in an operation of this character is the connecting link between the various larger units who are the owners of the oil and gas leases in the area. Through this procedure many exploratory wells are drilled that otherwise would not be drilled. Experience in the past has shown that in most instances of this character the major units in the industry are unable to work out such deals so that without the flexibility and resourcefulness of the independent oil producer many wildcat wells would never be drilled in situations such as referred to.

The independent oil producer operating on his own initiative and without the necessity of consultation with others can move much more quickly and can operate in a much more flexible manner than can the larger units. Confining his efforts, as he generally does, to a smaller area where he is in close contact with everything going on, he is able to render most valuable service to the industry in working out deals in various ways, to bring about the drilling of exploratory wells which would not otherwise be drilled, and as a result the independent oil producer has been a most effective agent in bringing about the drilling of a major portion of the exploratory wells. The need of the independent producer in exploration effort in the future will be just as great as it has been in the past. Anything that occurs to put the independent oil producer out of business will tend to retard exploratory effort and the development of new oil reserves in this Nation.

In his drilling operations, the independent oil producer knows that as drilling proceeds, service companies are available to perform various

services such as acidization, to survey his wells for deviation, treat his mud for blowout prevention, sample his returns for oil and gas, log his wells electrically for oil horizons, and cement his casing strings in accordance with the latest techniques.

He has no fear of the country running out of oil in the foreseeable future.

The CHAIRMAN. How much of the future is foreseeable?

Mr. BAILEY. We can say a considerable length of time. We have 21,000,000,000 barrels of oil in reserve, and we are constantly finding new oil, and we have large reserves of natural gas that can be utilized for making gasoline, and in addition, of course, the hydrogenation of coal and oil shale deposits.

Senator MOORE. Our expectations are unlimited.

Mr. BAILEY. So it looks like it is a long time in the future.

Mr. FELL. From my study of the previous testimony, Mr. Chairman, in preparing my summary, I found the unanimity of opinion of all the witnesses who testified before you was that it would be generations before you run out.

The CHAIRMAN. I think it is characteristic of the oil industry to be optimistic.

Senator MOORE. There would not be any oil industry if it were not optimistic.

Mr. BAILEY. I heard the thought expressed that when atomic energy comes into use, oil may not be needed.

The CHAIRMAN. You may proceed.

Mr. BAILEY. The independent oil producer knows that only about one-half of our States produce oil and that many of them that do are scarcely scratched. He has observed that every advance in technical knowledge concerning the source and occurrence of oil has been followed by ever greater rather than smaller prediction as to the ultimate amount of recoverable oil in our country. He has the tools, he has the technique, and he can find more oil—but he's worried.

Will the Congress, which is vested with the authority and responsibility for formulating a national oil policy, heed the advice of the petroleum industry as contained in the statement of policy adopted by the Petroleum Industry War Council appointed by the Petroleum Administrator for War and endorsed by practically every oil operator in the Nation and preserve the laws, regulations, and procedures that have been proven to be sound? Or, will it follow the inexperienced advice of those who would impose upon what has proven to be the most dynamic industry in our country, their pet theories on taxation, regulation, Federal Government participation and competition in world commerce?

A sound import policy is essential to any sound national oil policy. Excessive imports, or imports brought in on an improper basis, can be destructive to the producing branch of the domestic petroleum industry. This subject will be discussed in full by another witness. It is important to this committee, however, to bear in mind that irrespective of what import policy is adopted by this Government, it is essential that adequate machinery be set up to properly effectuate the policy.

The oil producers of the United States operate approximately 400,000 oil and gas wells, about 75 percent of which are in the stripper class; that is, wells which produce only a few barrels per day and

many thousands produce less than 1 barrel per day. These 300,000 small wells account for only about 12½ percent of our current production, but their continued operation is important. A considerable percentage of our present reserves underlies these wells. To abandon them because of operating losses would not be in the public interest. The margin between profit and loss in their operation is very thin.

The policy which has prevailed during the last quarter century has kept these small wells pumping. In spite of this, there are some in Government who would ask the Congress to make changes which would be injurious, if not fatal, to the domestic producer.

The Treasury Department has consistently been trying to reduce or eliminate the 27½ percent depletion allowance which has been allowed during the last 27 years.

There have been efforts to force the drillers of oil and gas wells to capitalize all well costs instead of giving them the option to charge to expense the intangible part of such costs.

During wartime, the Office of Price Administration froze the price of crude oil at an abnormally low price, and has consistently refused to give consideration to increased costs of operation and to the cost of replacing reserves which were rapidly depleted by abnormal war requirements even though the industry has pleaded for an increased price to compensate for these increased costs. The independent producer's existence is dependent on the price of crude oil. His only source of income is the money he receives from the sale of the oil and gas he produces. The price received must not only cover the cost of producing a barrel of oil, but also the cost of finding and developing another barrel of oil to replace it.

The State Department has secured from Congress the authority to further reduce the tariff on imports of commodities, which include oil. They say that this is necessary to continue the good-neighbor policy, or to help solve the problems attendant in establishing international trade relationships in the postwar period.

The adoption of any or all of these suggested changes by the Congress is sure to militate against the ability of the domestic petroleum producer to continue his job of furnishing the power and greasing the wheels of industry in peacetime, and to provide the necessary backlog of reserves which might again be needed in another emergency.

Other matters that disturb the independent producer are the competition of tax-free cooperative organizations and the direct or indirect competition of Government in the oil-producing business. I refer particularly to potential reserves administered by the Navy Department, Federal claims to tidal lands which cloud the titles of the various States, and the policy of retention of mineral rights in sales of Government-owned lands to private parties, excessive royalty payments embodied in Federal oil and gas leases, and the still existing threat of the charter provisions of the Petroleum Reserves Corporation, recently reorganized under the name of War Assets Corporation. Congress can do much to relieve our anxiety over these matters.

Captain FRANCHOT. Mr. Bailey, may I interrupt a moment?

Mr. BAILEY. Yes.

Captain FRANCHOT. I am interested in your reference to competition of the reserves administered by the Navy Department. What could you suggest that would give more confidence to the independent producer or the oil industry? What legislation could be more com-

prehensive in that respect than the amendment of the law, the basic charter, what we call the charter of the naval petroleum reserves, that was passed in June 1944 and approved by the President on June 17, 1944? In that legislation, as you will recall, the Congress has the last word as to whether production can be had from the naval petroleum reserves, referring not only to the present reserves but any future reserves. The Navy Department cannot produce a barrel of oil, except for testing and remedial work, without congressional approval. As far as production is concerned, the Navy Department cannot produce a barrel without a joint resolution from Congress. What more could you suggest that would insure to the industry that the Government does not want to go in and compete with private industry? I am not saying anything about the announcements and declarations of the present administration of the Navy that they abhor the idea of competing with industry, but assuming changes in administration, what better protection could be given to the industry than now exists in present legislation? I am speaking as an independent producer myself. I cannot conceive of a happier answer to the question that you are raising than Congress gave to that question in June 1944.

Mr. Fraser. Perhaps the witness is thinking of the abolition of the naval reserves.

Captain Franchot. Even if the present naval reserves were abolished, the volume of the present estimated recoverable oil would be not great, in the over-all picture.

Mr. Bailey. Of course, during the early part of the war the oil was not produced to a great extent by the Navy.

Captain Franchot. No; not until the emergency came up. I am not speaking of what was done during the war; I am speaking of what protection does the industry need against the Navy going into competition with it, greater than now exists.

Mr. Bailey. I really did not know about this legislation that you speak of.

Captain Franchot. I think the industry should know that not a drop of oil can be produced from Elk Hills or from the vast, potential reserve in Alaska, or from Teapot Dome, without full hearings before both the Naval Affairs Committee of the Senate and the House, and a joint resolution passed.

Mr. Jacobsen. I would like to come to the aid of the Navy, if I may. I would like to call to your attention the fact that at the former series of hearings before Senator O'Mahoney's committee, Captain Franchot and Commodore Greenman presented quite a lengthy document, showing the Navy's ideas on oil policy. That document was passed to the Army and approved by the Army. There is a paragraph in there, I think, to the effect that the Navy, and consequently the Army likewise, do not favor the creation of any additional naval reserves. Is that correct?

Captain Franchot. That is correct. Of course, we feel the value of our present reserves, eliminating Alaska, which stands on a different footing, is a purely strategic one, as was evidenced in the last war by the fact that Elk Hills was able to come to the rescue in a very serious emergency on the west coast. Only where there is a strategic factor does the present administration favor the maintenance of naval petroleum reserves.

Now, the Alaskan situation is different. That is working in the Arctic Circle. No private company can undertake the responsibilities and risks involved. But even there, if we find oil in any commercial quantities, the industry is protected by present legislation, in my opinion.

Mr. MAJEWSKI. Perhaps the witness had in mind what the Army did on the Canol project that worried a lot of independents. We think that was a tremendous waste of money.

Mr. BAILEY. The independents in the oil industry protested at that time.

Mr. MAJEWSKI. And it did no good.

Mr. BAILEY. It did no good.

Mr. MAJEWSKI. I just wanted to mention that.

The CHAIRMAN. May I say a word for the Army on that score? The Navy has been speaking for itself.

As a member of the Appropriations Committee which authorized that Canol project, I feel that the operators, the petroleum industry, and the country at large should not fail to remember that when that project was initiated our Navy had been practically destroyed at Pearl Harbor. The Japs were moving on toward Alaska. There was every reason to believe that an attack upon the United States might be made from that area. It was essential, therefore, in the national defense that we should have oil available for defense purposes in Alaska, and should have it as soon as possible. It was clear that submarines were operating off our Atlantic coast, and there was danger that the Japanese submarines would be operating off the Pacific coast, and, therefore, the transportation of oil by tanker up the Pacific coast to Alaska might be very hazardous. It was very hazardous. So that the Appropriations Committee, the Congress, with full knowledge that there might be waste, that it would be in any event a tremendously expensive operation, authorized the funds necessary to carry on that project.

A good deal of the criticism of that project I think is the result of hindsight, but looking at it from the position that I occupied at the time, when we did not know what was going to happen in this war, it seems to me it cannot be judged by the ordinary concepts of the economic expenditure of money in the oil industry, or in any other industry. It was, I think, a great necessity in the national defense at that time, whatever may be the facts now with respect to waste. I think it is hardly likely that a great operation could be carried on in as isolated an area as that was without waste, and I say this without any attempt at all to defend what may turn out to be unjustifiable expenditures and waste.

Senator MOORE. That does not explain the impracticable effort, and the almost certain knowledge that it was not any source of supply of oil.

The CHAIRMAN. Well, Senator, the Army operated on what seemed to be good advice from what seemed to be competent and well informed people in the petroleum industry.

Senator MOORE. They really went to work on it against the advice of the most dependable people.

The CHAIRMAN. I recognize your point of view.

Mr. FELL. I think, Mr. Chairman, the point I really believe Mr. Bailey is trying to make is that with the same amount of money, an

industry staffed with technicians, engineers, drilling contractors, and people with the know-how, could probably find more oil; that is, make more oil available with less money than some agency that was not devoting their lifetime to that activity.

The CHAIRMAN. I once knew a very wise man who said that the worst things in life never happened. I think that is true. A great deal of the fears which are expressed to committees of Congress are based upon apprehensions of possible things which really do not eventuate.

Now, with respect to Government competition with the petroleum industry, or with any other industry, I think Congress has made it plain, not only in the law to which Captain Franchot has referred, but with respect to many other laws—for example, with respect to the Surplus Property Act—that the purpose of the Government is not to compete with private industry but to encourage and stimulate private industry. That is why Congress provided in the surplus property bill, which was signed by the President, and which is therefore the expression of both the legislative and executive branches of the Government, that surplus property should be disposed of in such form as to encourage the competitive system. I think a good deal of these fears are apprehensions that are more political than real, if I may say so.

Senator MOORE. It is more easily explained from a theoretical standpoint than it is from a practical, business standpoint.

Mr. BAILEY. Of course, there is the fact that in the last few years the Government has acquired large acreage of land in various sections of the country. Sometimes these agencies sell the land and retain the mineral rights. If an independent operator wants to assemble a block to drill he finds that some agency of the Government has the mineral rights in these areas, and this makes it difficult to assemble the block.

The CHAIRMAN. Well, there is something to be said on that subject, too. In the first place, I have introduced legislation to combat this. I say that the Department of Agriculture, which acquired the ownership of land by reason of the submarginal purchase program, which was initiated for relief purposes and for agricultural purposes, was not authorized by Congress to lease those lands for mineral purposes, and any action by the Department of Agriculture in leasing for mineral development lands so acquired is altogether outside of the purview of the law. That is a subject which is now under consideration by the Public Lands Committee.

But in the public lands States this principle of separating the surface and the mineral rights was under discussion for many years prior to December 1916, when the so-called Stock Raising Homestead Act became a law. Now, the theory of that was that by the retention of the minerals in the Government it would be possible to secure an income, through Government royalties, which thereafter could be used for the upbuilding of the State from which the oil was taken. It must never be forgotten that 52½ percent of the royalties received by the Government from public leases goes to the reclamation fund, and the reclamation fund is used to build vast service improvements, which result in great public benefit. So that we have, as the result of this system, permanent improvements in the way of great reclamation projects which will continue to produce business for

the individual as well as tax receipts for the Government long after the oil resources and mineral resources have disappeared. There is a good deal to be said on that side.

I think the record of the Reclamation Service, of the communities which have been built up as the result of these reclamation projects, will show that far more new free private enterprise has been established and stimulated as the result of this policy than has been impaired by the imposition of the royalty system.

Mr. BAILEY. In my State the Federal land bank operated quite extensively, and in the course of their operations they foreclosed many mortgages, and now when they sell a tract of land that they had acquired title to under foreclosure they retain one-half of the mineral rights.

The CHAIRMAN. It seems to me you have got a very important point there.

Mr. BAILEY. It does hinder the assembling of blocks of leases for drilling.

The CHAIRMAN. It has been my own personal opinion that none of these Government agencies should, without authority of Congress, pursue such a policy, and that where land is controlled by the Government it should all be administered, so far as mineral leasing is concerned, by one agency. Of course, the Federal Reserve System is not strictly a Government agency.

Mr. MAJEWSKI. Mr. Chairman.

The CHAIRMAN. Mr. Majewski.

Mr. MAJEWSKI. I would like to point out that I am not bringing up this Canol matter for political reasons. I brought it up because of the fact that, this being an independent company hearing, the next time we have such a situation come up, where a governmental agency will develop potential reserves, qualified representatives of the independent companies be likewise consulted, as well as the major companies, which was the case in the Canol project. That is the only reason I brought it up. I would like to make a definite recommendation, if you will permit it, that qualified representatives of the independent companies be consulted as well as the majors.

The CHAIRMAN. Let us hope we do not have another war, Mr. Majewski.

Mr. MAJEWSKI. I mean even without a war. According to what Captain Franchot said, they think because of the great expense they should develop Alaska. You know there would be no oil produced if the independent fellows did not enter into this field.

Captain FRANCHOT. What oil company could undertake the development of oil in Alaska, in the Arctic Circle today?

Mr. MAJEWSKI. I do not know, but we do take pretty big gambles.

Captain FRANCHOT. Of course, to avoid any misunderstanding, the Navy is not developing the reserves in Alaska, it is merely exploring, and it is doing it entirely through contracts with civilian companies. Since the war has been over, and the Seabees went back to civilian life, it has all been done by civilian contract.

The CHAIRMAN. In other words, that is another instance in which the Government is not operating.

Captain FRANCHOT. That is right, sir. During the war we had to do it with Navy personnel, because the manpower situation was such that that was the only way to get it.

Mr. MAJEWSKI. That has been a refreshing clarification on the part of the Navy, but I am still thinking about Canol and how the independents were not consulted. Even the major companies recommended against Canol, and they were the only people consulted.

The CHAIRMAN. All right, Mr. Bailey, you may proceed.

Mr. BAILEY. It is increasingly difficult for the independent operator to remain in business. Economic pressure is causing many of them to dispose of their properties and withdraw from the business. Many others have ceased to function, merely permitting their wells to produce to ultimate exhaustion. The cause is simple. Prices were frozen at an abnormally low level and they have constantly remained frozen at that level, except for the 10-cent increase that was promised yesterday, I believe.

Senator Moore. You did get some subsidy payments.

Mr. BAILEY. Yes, we did get some subsidy payments. [Resuming:]

Drilling and operating costs have increased some 50 percent over prewar years. Wells must be drilled deeper and deeper. Faced by a low price for his production, increased drilling and operating costs, the independent does not any longer possess the margin of profit to undertake the assembling of wildcat blocks and the drilling of wildcat wells. Further, under proration, even where a producing well is completed, many years are required to recapture from production the cost of drilling and operating. Fortunately, conservation practices have established oil-producing properties as sound collateral, and bank loans on reasonable terms are generally available, and the independent is either availing himself of such loans or is using the reserves that he accumulated in prior years to carry him along into these years of low prices and high costs. He cannot replace these reserves under present price levels. So, if present prices continue, it is only a question of time before the independent will be eliminated from the industry. It is not in the interest of the public that such elimination of the independent take place.

Mr. Chairman, this statement has been presented to the committee with the hope that the important part played by the independent producer of oil and gas in the petroleum industry will be fully understood. In the formulation of a national oil and gas policy by Congress, it is hoped that the independent's position will receive the protection necessary to permit him to continue as an important element in the oil and gas industry.

The CHAIRMAN. Are there any questions? I am sure Mr. Bailey will be very glad to respond to any inquiries.

Mr. ENGLAND. One little question, Mr. Chairman.

The CHAIRMAN. Mr. England.

Mr. ENGLAND. Mr. Bailey, at the top of page 11, the little paragraph, you say:

> This has resulted in greatly reduced pipe-line rates because the pipe-line company can determine more accurately, needed capacity and in general is assured a longer period of continuous operation in which to amortize its investment.

I take it by this you refer to the ratable taking on the conservation basis.

Mr. BAILEY. The conservation laws adopted by the States.

Mr. ENGLAND. I just want to tie up the antecedent of "this" as meaning the conservation laws.

Mr. BAILEY. That is right, the conservation laws of the various States.

Mr. DOW. Mr. England, might I also add this comment? It also explains the very drastic reduction in pipe-line rates that has been made in recent years. The early pipe-line rates were based upon the principle of paying out for the pipe line during the life of the producing property, which, under old producing methods, was very much shorter than it is today.

Mr. BAILEY. And also the conservation laws and proration has required less investment in pipe-line facilities to take care of a field, so that naturally would tend to reduce rates, because you have a smaller investment. A 6-inch pipe line answers the purpose now, whereas under the open-flow conditions three or four lines of similar diameter might be required.

The CHAIRMAN. The committee will now stand in recess until 2:30 this afternoon.

(Whereupon, at 12:10 p. m. the committee recessed until 2:30 p. m. of the same day.)

AFTERNOON SESSION

The CHAIRMAN. We will come to order. Are you ready to proceed, Mr. Fell?

Mr. FELL. We are ready to proceed. I have asked the next four witnesses to try to rush their presentations in the hope that we can get through with the four this afternoon. Mr. Andrus will now discuss secondary recovery.

STATEMENT OF DON T. ANDRUS, PAST PRESIDENT, PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION, BRADFORD, PA.

Mr. ANDRUS. Mr. Chairman and gentlemen of the committee: My name is D. T. Andrus, of Bradford, Pa. I am immediate past president of the Pennsylvania Grade Crude Oil Association and Pennsylvania's representative on the Interstate Oil Compact Commission. I have been an independent oil producer engaged in secondary recovery work since 1910.

This part of our presentation is a study of the place of the independent company in the supplying of oil for the United States through secondary recovery methods. The story of secondary recovery is mainly the story of many small operators and of the great contribution which they have made to the oil thinking of our country. It is the story of pioneering. It is a tale of little businessmen who, when the threat of declining oil production with its blight of lost jobs and vanishing homes had come to their neighborhoods, met the challenge and rebuilt a business greater than the one they had lost. It is the story of a business still in its infancy, needing a great measure of cooperation from business and Government to bring about its full return in increased oil reserves and employment to our country.

Any discussion of secondary recovery must begin with a short description of early producing conditions in the oil business. For years after the discovery of oil there was no proper appreciation of the part played by the reservoir pressure of natural gas in moving the crude oil into the well hole. A well was drilled into the oil sand

to as great a depth as the gas pressure would allow, and then flowed wide open as long as the gas would lift the oil. When the well ceased to flow, it would be drilled deeper or shot and then turned wide open again. In a short time the gas had ceased to lift the oil and the well was put to pumping. In a few years this well had settled to the stage of what we now call a "stripper well," with a production frequently of just a few gallons a day. I have spoken particularly of gas pressure because most of the early oil discoveries were gas pressure pools. However, as time went on many oil pools were discovered in which water pressure was the flowing force and too rapid production of these pools was, if anything, more devastating to maximum production than the rapid waste of the gas energy.

In both cases, when this rapid decline in production came, most of the people in the boom area packed up and moved on to newer flush areas leaving, as they supposed, little of value in the deserted region. We have since found out that frequently they left a great deal of value, an oil sand saturated almost as fully with oil as a dunked doughnut is full of coffee.

I particularly want to stress this fact, in connection with the postwar planning for oil. These early seekers for oil went on to new fields, frequently poorer than the areas they left. They went on, not because the fields were really depleted, but simply because they did not realize the great quantity of oil remaining in the sand, let alone know how to get it out.

This condition went on for years. Oil was discovered in 1859. It was 50 years later, after the search for oil had gone clear across the United States, before oil people began to question the judgment of those early producers. Finally, partly by accident and partly by study, it began to be apparent that it was not the oil that was gone, but merely that the reservoir energy to move it to the well holes was dissipated.

With this understanding began the branch of the industry about which I am talking today—secondary recovery. Secondary recovery is the reenergizing of these inert oil reservoirs with a replacement force (high pressure air, gas, or water) to again put the oil in movement. Oil produced from a reservoir before the new technique of pressure maintenance was developed was about in this proportion: About 20 percent producible by the original gas pressure, about 25 percent that might be produced by secondary recovery methods. The rest, comprising more than half the original oil in the sand, the industry has given very little thought toward recovering.

Let me just stress that point, because that is the whole point of this testimony. Notice that in one new sand reservoir, one barrel in five was produced by the original gas energy. We, by secondary recovery, will get another barrel and a quarter out of the five. We still do not know how to get that other two and three-quarters out of the five.

The attempt to reenergize the oil reservoir was also first made in the Pennsylvania region, not so far from where oil was first discovered. About the year 1900 water repressuring was begun in the Bradford field of Pennsylvania and in 1911 repressuring with air and gas was begun in southeastern Ohio. One form or another of secondary recovery has since been adopted in many parts of the country. However, the Bradford field of the Pennsylvania region

has had the longest experience in water repressuring and I am presenting a graph of its production from the time of the original discovery of oil to date as an illustration of the amount of oil which may be recovered by these new methods. [Graph entitled "Oil Production from Bradford and Allegany Districts."] As you see, the primary production of this field amounted to about 250,000,000 barrels. The daily average of the field was down for several years to a production of 7,000 barrels per day, during the years of stagnation between the decline of flush production and the beginning of active water flooding. It was during the middle 1920's that the flooding process began to be improved rapidly and it is exceedingly noteworthy that this tremendous improvement took place during the only period of fairly stable prices that the industry has ever known.

I would like to stress that point, too, in line with thought at the present time of the limitation of profits in industry. The extractive industry must have a fair profit to obtain maximum recovery. These processes are not completed; they are not fully developed. We have lots to learn all the time, and the squeezing of profits too closely is not a good way. The country itself will lose far more than the businessmen could ever gain from too close a pinching.

In the approximately 20 years since then the field has produced about 220,000,000 barrels of oil. With present known methods, there are approximately 100,000,000 to 125,000,000 barrels of oil still to be recovered. The improvement in flooding methods has been evolutionary. Research has increased production so that an acre which would have produced 3,000 barrels under 1920 methods should now produce two or three times that amount. Notice, too, that the production is still large. In fact, because of its valuable oil, the Bradford area has been one of the large oil fields in the United States, in point of daily dollar value of sales of oil, for a number of years. Of course, these are just bare figures. I wish that I might paint for you in terms of jobs and homes and people's lives the picture of a whole area changed from slow decline to a high level of business activity by a new idea. This is a remarkable showing, but still far from ideal. With the best knowledge we now have we shall walk off and leave 700,000,000 barrels of the highest-grade oil in the sand when the field is finally considered depleted, worth at the present market price $2,625,000,000. And this is after we have used every now known production method.

I would like to say this in another way. The primary production took out about 3,000 barrels to the acre. By water flooding, we have added 4,000 barrels a day for our total of 7,000, and we are leaving 9,000 barrels an acre in the sand that we do not know yet how to take out.

The Chairman. If you leave 700,000,000 barrels in the sand, how much will you have extracted?

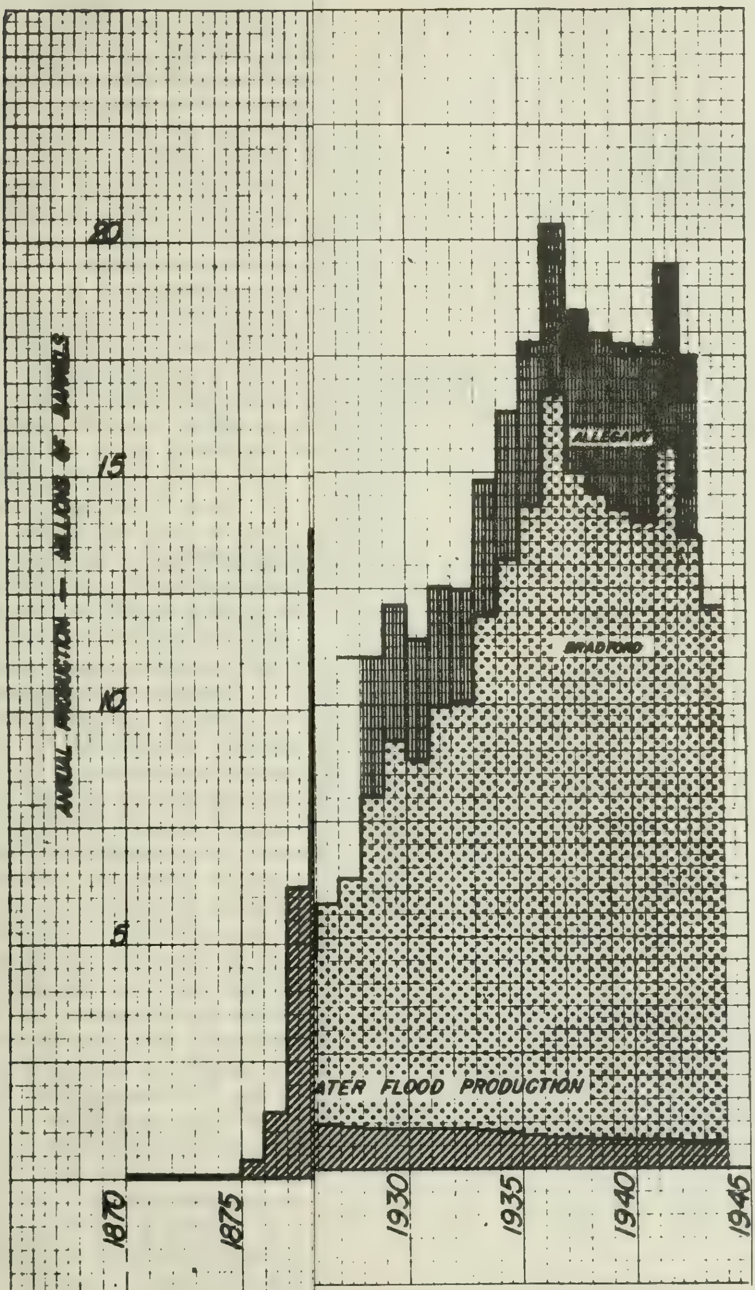
Mr. Andrus. The total of about 250,000,000 plus 350,000,000, around 600,000,000 barrels.

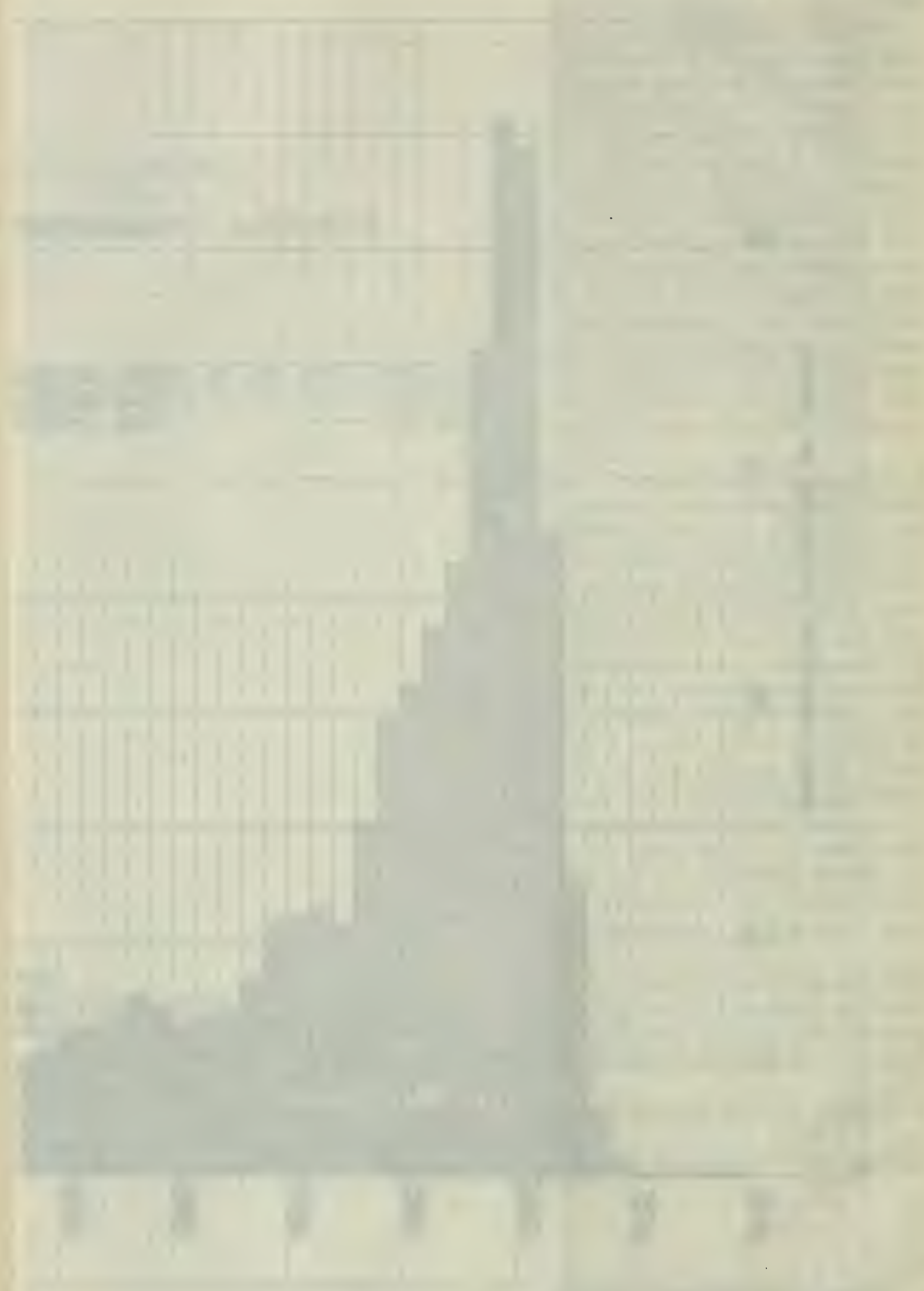
Senator Moore. Less than half?

Mr. Andrus. Less than half.

The Chairman. You may proceed.

Mr. Andrus. However, the Pennsylvania producer is not ready to admit that all this oil must be lost. Twelve years ago the Bradford District Pennsylvania Oil Producers Association began research

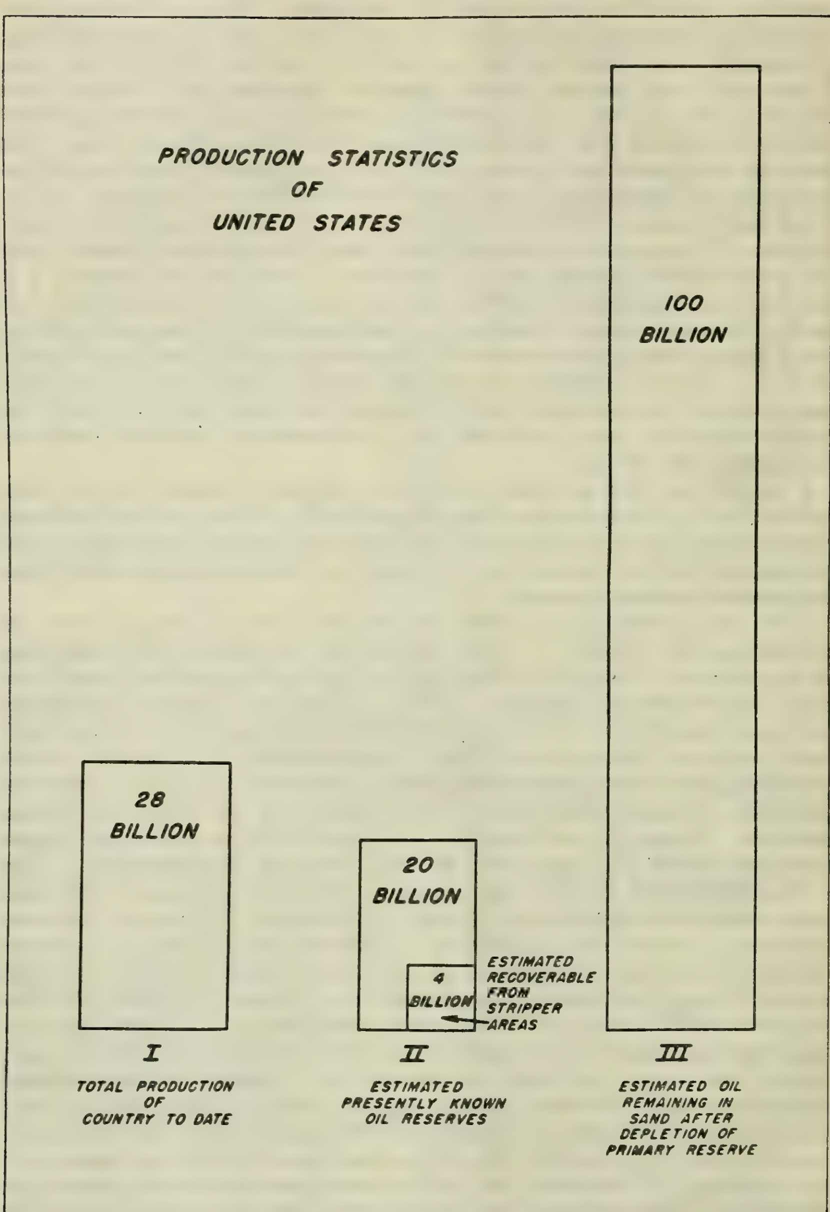

ANNUAL PRODUCTION — MILLIONS OF BARRELS
20
15
10
5
ALLEGANY
BRADFORD
ATER FLOOD PRODUCTION
1870
1875
1930
1935
1940
1945



studies at Pennsylvania State College, with the State of Pennsylvania making a contribution to the work. Two years ago the Pennsylvania Grade Crude Oil Association took over Bradford's support of the water-flood work and expanded the activity to all forms of secondary recovery, with a budget of $100,000 per year. Many individual concerns have entered wholeheartedly into the work and are exploring various projects which would account for a second $100,000 per year. The work is of various kinds: Research projects at different State schools in the region, a field problem laboratory at Bradford, contract research projects with various national research organizations. The findings are passed on to producers by field engineers, much as the Department of Agriculture and the Farm Bureau are equipped to discover and make available to farmers new and better methods of agriculture. I have gone into detail about our Pennsylvania Grade Crude Oil Association's attack on this problem of residual oil because it is much the most aggressive work ever carried on anywhere and may well be duplicated in every area having reserves of oil in the sand waiting for a newer more efficient method of recovery or a higher price for oil, or both. The oil industry recognizes that the Appalachian area and particularly the Bradford field is a sort of laboratory in which the results obtained may point the way to secondary recovery methods throughout the Nation.

I might say just a word about this research work. It has been carried on in a remarkable spirit of good will. We have fairly liberal contributions from a number of the large companies, the major companies, and it has been a very pleasant and interesting project from the general interest aroused.

How much residual oil have we in the United States? On the accompanying drawing I have illustrated the production statistics of the country. Block I is the total oil production of the country to date, 28,000,000,000 barrels. Block II is the estimated presently known oil reserves of the country, 20,000,000,000 barrels. In the right-hand corner of this second block I have marked off a smaller block, 4,000,000,000 barrels, the amount usually estimated to be recoverable from the stripper well areas of the country by all presently known methods. However, on the right I have set another and much larger block numbered III, more than twice as large as the other two. This is 100,000,000,000 barrels, the amount that it is estimated we shall leave in the oil sands in the United States when all presently known methods of operation are finished. It is toward obtaining a greater part of this enormous amount of residual oil that our Pennsylvania Grade Crude Oil Association research is directed. This 100,000,000,000 barrels is a figure which your committee, in its search for adequate employment for our people and a full supply of oil for possible future wars, may well stay awake nights to ponder. One hundred billion barrels! We leave in the ground nearly four times as much as we have used to date. I wonder if this amount has ever been mentioned in this presentation to your committee of future oil reserves in this country. I doubt if, all told, there has ever been more than $200,000 or $300,000 spent by Government toward evolving ways for its recovery. Yet, this oil at the average low price per barrel now paid would be worth over $100,000,000,000.


PRODUCTION STATISTICS
OF
UNITED STATES
28
BILLION
20
BILLION
4
BILLION
ESTIMATED
RECOVERABLE
FROM
STRIPPER
AREAS
100
BILLION
I
TOTAL PRODUCTION
OF
COUNTRY TO DATE
II
ESTIMATED
PRESENTLY KNOWN
OIL RESERVES
III
ESTIMATED OIL
REMAINING IN
SAND AFTER
DEPLETION OF
PRIMARY RESERVE

Mr. FRASER. Do I understand that that third column is what is left in the ground after secondary recovery is effected?

Mr. ANDRUS. No; before secondary recovery. That is the way we walk off and leave our ordinary reserves in the United States.

Mr. FELL. It is after secondary recovery.

Mr. FRASER. This third column on the right, is that before or after secondary recovery methods have been applied?

Mr. ANDRUS. Those figures are based, as I said, on the Bradford amount, that 1,300,000,000 barrels was originally in the reserve; we had taken out 250,000,000. What I am getting at is secondary recovery has been very little used.

The CHAIRMAN. My understanding of your statement would be that if the same experience in the Bradford field were applied to all of the producing areas of the United States, then as of the date that this chart is prepared, after primary recovery had ceased, there would remain an estimated 100,000,000,000 barrels in the ground.

Mr. ANDRUS. Before secondary recovery?

The CHAIRMAN. I said after the primary recovery.

Mr. ANDRUS. After the primary recovery, yes.

Mr. JACOBSEN. Mr. Chairman.

The CHAIRMAN. Mr. Jacobsen.

Mr. JACOBSEN. May I call attention to the fact that secondary recovery methods are not applicable in all fields. There are a good many fields in which a secondary recovery method will not work.

Mr. ANDRUS. Under what we know now.

Mr. JACOBSEN. Yes, surely, talking about presently known methods.

Mr. ANDRUS. This is a talk now on the known sources of the United States, and we just do not know where we can go yet.

Senator MOORE. And the recovery of oil under primary recovery differs with the field?

Mr. ANDRUS. Yes; very much.

Mr. JACOBSEN. It varies to the point that there are certain fields where you can get practically all of it by primary methods.

Senator MOORE. That is where the water drive is used?

Mr. JACOBSEN. Yes.

Mr. ANDRUS. Yes, and we are improving our primary methods, so that from now on we will not have this condition, of course.

The CHAIRMAN. The point is whether in preparing this chart you have taken into consideration that some fields may be efficiently and almost completely produced by presently known primary methods.

Mr. ANDRUS. Of course, now, that figure is really a figure that came from some of the war agencies, and was an estimate of it.

The CHAIRMAN. I understood it was an estimate based upon the Bradford experience?

Mr. ANDRUS. Yes; the Bradford experience, and also from figures obtained during the war by PAW; and the sands are soaked with oil yet, some of which we know how to get and some we do not.

The CHAIRMAN. It did not pretend to be accurate, but it is intended to indicate that there is a tremendous reserve which we have as yet been unable to tap because we have not developed beyond present processes of secondary recovery.

Mr. ANDRUS. Yes, and to which to a great extent our minds have not run toward trying to find out how to get.

The CHAIRMAN. In other words, you are trying to stimulate interest in further process of secondary recovery?

Mr. ANDRUS. Yes.

Senator MOORE. Bradford Field is especially adaptable to that method of secondary recovery that does not obtain in many other fields in the country.

Mr. ANDRUS. But there are enormous areas that have 25,000 to 30,000 barrels an acre that have not as yet had anything done with them.

The CHAIRMAN. There is implicit in your statement a recommendation that the Government might very well undertake the expense of research to produce better methods?

Mr. ANDRUS. Yes; I will come to that later.

The question facing this country today, forced upon us by our tremendous wartime use of oil is, are we going to make a fight for these billions of barrels of oil?

The CHAIRMAN. Pardon me, Mr. Andrus. I was just remarking to Senator Moore that the Government is all right when it does what we want it to do.

Senator MOORE. I was just afraid it was not going to stop when we want it to stop.

Mr. ANDRUS (resuming). Are we going to protect these reserves which, with a little more ingenuity, might well save us in some future war crisis? Or are we going to adopt policies leading to their ultimate loss? If this investigation accomplished no more than the establishing of a proper policy toward our residual reserves, it would have made an enormous contribution to the welfare of our Nation.

If the answer is yes, we do need this oil and the country needs the billions of man-hours of work it will take to get it out, then what can and what should we be doing in the postwar period to stimulate the harvesting of this great crop of secondary oil to be found in every producing State from New York to California?

We must educate our people in oil, just as we have educated them in soil conservation, to the great value of the asset to be conserved. The more advanced petroleum engineers have known for years the value of natural gas as reservoir energy. However, the demand of the public for cheap gasoline and the demand of the tax collector for high gasoline taxes have been against the engineer in his fight for its conservation. The Interstate Oil Compact Commission has done a great deal in selling efficient operating methods, but even in States practicing conservation, the emphasis is still too much upon getting some of the oil out quickly and cheaply, with too little regard for the amount of natural energy wasted and the amount of oil left in the sand. The various oil States still have a great problem to obtain the maximum of efficiency in primary production. This is intended more as a criticism of our national thinking on conservation rather than in the case of oil in particular. Soil resources, timber reserves, mineral deposits, all have suffered because we wanted the commodities at too low a price to enable the producer to do a good conservation job.

The CHAIRMAN. It may be appropriate for me to remark that the Committee on Military Affairs yesterday voted to report out the bill upon which members of Congress and various scientific groups have

been working, to establish a scientific foundation for the purpose of promoting scientific research. Under this bill, Government funds would be available, for example, to State universities and schools, such as a school of mines, for example, to undertake scientific research. It does seem to me it would be altogether proper under such a measure for the State universities, and other educational institutions, to carry on the very type of research which you are here recommending for improved and more efficient methods of recovery.

Mr. ANDRUS. It would help enormously. [Resuming:]

In a strictly competitive economy, such as we have in this country, it is always hard to practice conservation of any natural resource. The more fortunate producers who happen to have discovered unusually rich deposits of the commodity are able to produce so cheaply as to undersell the great majority of the operators. This is far more true of oil and natural gas than of any other of our resources, for when the drill breaks through the cap rock of a great oil and gas deposit, the oil and gas in many cases fairly jump to meet the operator. Thus there is bound to be an enormous difference in the cost of oil produced by flowing and that obtained from a pumping well. Because of this fact the very bountifulness of our supply has tended to make us Americans wasters of our oil resources. We have not yet come to the end of our supply of flush fields and hate to pay the slightly higher price for oil products which would make it possible to obtain more than twice as many barrels per acre from our crude reserves. The price set for oil has been based on competitive flowing, not efficient clean up. Our great ability to produce was a lifesaver in war, and is necessary for our peacetime economy. However, we must keep it under control if we are to get the maximum in wealth and jobs from the oil reserves in our keeping.

The constant competition of new flush oil fields during the '30's made water-flooding operations prior to the war possible only in the shallower and more favorably situated fields such as the best of the shallow fields of eastern Oklahoma and Kansas, and I might say some in Texas, and the deeper fields of the Pennsylvania region where the high lubricating content of the oil brought about a higher price. It has kept air and gas repressuring far too much the last chance try of the operator who was ready to give up and abandon his property if "something didn't happen soon."

The coming of the war and OPA price control made matters infinitely worse. In the '30's in the western oil States prices occasionally got almost to where secondary recovery could be profitable. However, the OPA price freeze came at a period when much flush oil was on the market and the price of $1.22 per barrel was practically the depression price. Thus the wartime increases in wages and supplies had just about put a stop to secondary recovery plans until the OPA stripper well subsidy gave them an uncertain encouragement.

This uncertain form of compensation is particularly discouraging to the development of secondary recovery projects. These projects take several years to drill and to produce and, unless there is a reasonable sustained price for crude, there is very little incentive to start development work. Yet, who would notice an increased price for oil that would allow proper conservation in both the flush and stripper

areas? In terms of the present-day gasoline taxes, an increase of approximately 1 cent to 1½ cents per gallon for crude oil over the present-day price would be enough to make tremendous areas throughout the country available for secondary recovery. This 1 cent to 1½ cents seems small when one remembers that the average gasoline tax for the country is nearly 6 cents and that Government as a whole recovers far more from a barrel of oil as a tax vehicle than the price originally paid to the producer for the oil.

The Pennsylvania Grade Crude Oil Association in its ambitious plan of secondary recovery research wants to cooperate as fully as possible with the various State and National agencies working along this same line. As I have said, the State governments are increasing appropriations and doing everything possible to help with the work. I wish that I might say as much of the National Government. Just the other day, Pennsylvania made an emergency appropriation of $4,500, in addition to what they have been doing to help this next year. Of course, the Oil and Gas Division of the Bureau of Mines is the agency of Government charged with helping the oil industry improve its production efficiency, and the Bureau has a station for this work at Franklin, Pa. We found that this station has a good physical set-up, fine leadership, but only a fraction of the manpower which might be used to attack the problems offered. As it has turned out, rather than getting more work from the Bureau of Mines, the Pennsylvania Grade Crude Oil Association is putting in $4,200 per year to keep the present work going. Worse than this, sufficient funds have not been allowed to the station, even for incidentals. A reverse charge phone call to the association office from Franklin, Pa., is apt to mean a call from our friends at the Franklin station. Of course, a similar condition prevails in all the Bureau of Mines' five oil and gas stations throughout the country.

Three of the stations, those at Franklin, Pa., Bartlesville, Okla., and San Francisco, Calif., work part time on secondary recovery problems, with a total staff of 20 men, and a yearly budget of $150,000. We have worked for 2 years now to get the budget expanded to a size befitting the dignity of the National Government. This year we have our first encouragement, for the Bureau of the Budget has at last approved an increase of $200,000 for 1947 for the Bureau's work in secondary recovery. I might say, in the line of this work, too, we have been talking about secondary recovery. But these methods developed are just as good, many of them, for better methods of primary operation.

To the businessman, this seems small for the great amount at stake. This 100,000,000,000 barrels of residual oil is nearly four times the amount of oil taken from the oil fields of the country to date. Any process which would capture even 10 percent of it would create a great new asset for our country. If the production efficiency of the whole country could be raised to the level of that of Bradford water-flooding efficiency, it would double our recoverable reserves. As I have said, the ownership of the residual oil properties is mostly in the hands of many small concerns, so that there is no possibility of a major research project of several million dollars by one large company, such as the $8,000,000 laboratory of General Electric or the $20,000,000 automotive laboratory of General Motors which have been mentioned in the papers in recent months. Also, because oil is

found in only about half the States of the country, no individual State is apt to go "all out" for the work, unless it might be Texas. Like flood control, soil conservation, and public defense, it is too large and of too general interest to be left in limited hands. It is a subject which calls for a bold approach. It is well worthy of as much consideration as the $30,000,000 appropriation which Congress a few years ago gave to the study of the recovery of oil from shale and coal.

That is the thing I want to stress in this talk, that we somehow seem to have jumped over. We have gone from the stripper well to the substitute for oil, with very little general and national interest in this in-between program. Of course, we spoke some yesterday about the large companies. The large companies are waking up to the fact that since they have not been interested there has not been the united demand in the industry for the attack on this problem.

As long as air power is the key to national safety and as long as planes are only powered by petroleum products, we cannot pass up any means that will add to our supply of oil. In World War I we used 39,000 barrels of gasoline per day. In World War II, 600,000 barrels of 100-octane gasoline were consumed each day. During the time of World War I, the United States produced about 700,000,000 barrels of oil. In World War II, 7,500,000,000 barrels of oil were used. Where better could we look for an additional supply than to this residual oil? It is here in the continental United States, safe from submarine attack. It is hid in many a scattered region, safe as possible from air attack, and, so far, safe from man.

The little men of the oil industry have originated this idea of secondary recovery salvage and fostered its progress to date. However, we have barely scratched the surface of its possibilities. If the aviation industry had made no greater effort and if Government had not sponsored the great flying fields and provided the air mail subsidies, we should still be using the flying crates of 25 years ago, instead of the long-distance monsters of today. It does not appear nearly as unlikely that we shall find ways to recover more of our oil reserves at a reasonable cost as it did a quarter of a century ago that we should learn to fly 200-passenger planes. The United States Government should be a leader, not a laggard, in the effort to conserve the residual oil areas and to promote secondary recovery. This leadership could well be expressed in two ways:

1. Scientific leadership in the Bureau of Mines in cooperation with the efforts of private industry and the various States which will attack in a thoroughgoing manner the problem of reclaiming more of this residual oil in the manner that the Bureau is now doing work for shale oil and synthetic fuels.

2. Congress should use the influence of the Federal Government to maintain a price for crude oil, as well as other natural resources, which will allow private industry to obtain the maximum in product and employment from these irreplaceable commodities.

I said "two recommendations." Since I have come down here, quite a segment of the industry has asked for a third recommendation, which I will be glad to read.

3. In view of the fact that crude prices regulated by the law of supply and demand are in turn determined largely by flush produc-

tion produced at a much lesser cost than that from stripper wells, Congress should, in an effort to conserve the millions of barrels of recoverable oil in stripper well areas, enact a permanent conservation program providing for the payment out of the public funds of a substantial sum per barrel over and above the crude oil posted market price in order that wells when they reach the stripper class will not be abandoned and that by secondary recovery methods over the years, sustained and encouraged by such payments, will produce for the public use, millions of barrels of crude oil which otherwise will be lost.

I want to thank you members of the committee for hearing from the very smallest of oil producers.

The CHAIRMAN. To what extent was that third recommendation urged upon you by the industry?

Mr. ANDRUS. Mr. McClure will state who did the urging mostly, in his paper. Of course, there are very considerable areas in the Mid-Continent, and, of course, the National Stripper Well Association, that voted for it. The Penn Grade Association has, I think, voted for it.

The CHAIRMAN. Now, it seems to me that in the opinion of those who are urging this, if the subsidy—or, I should say if the conservation program—is not continued, then production from the stripper wells is likely to fall off.

Mr. ANDRUS. Yes. As one of the witnesses yesterday said, there is always the urge, especially in the Mid-Continent, to sell for junk. When the junk gets up so that this price for the wells in 3, 4, or 5 years is no greater than the price for junk, that area is pulled out, and it is absolutely abandoned.

The CHAIRMAN. I suppose the theory would be that a subsidy would be justified on the ground that if the price to the consumer were maintained at a sufficient level to make the secondary recovery from stripper wells generally profitable, it would make flush production very much more profitable.

Mr. ANDRUS. That is the trouble. There is such a range in cost in the oil industry, more probably than in any other industry.

Senator MOORE. The conservation laws of the States, of which there has been so much said, are intended to lead towards conservation of oil. And that includes the oil from what you call stripper wells. So the States, under their laws, have restrained the production of oil to what is generally regarded as the demand for oil. And if those last were enforced fairly and equitably, wouldn't it be to the interest of the industry itself to maintain a price and maintain a balance between production and demand so as to give the stripper wells an opportunity to exist and continue, and also make possible the application of secondary recovery?

Mr. ANDRUS. It certainly should be that way.

Senator MOORE. It must appear to the industry as a whole in this thinking about the over-all picture of the long pull, that they must conserve their reserves. Abandonment of small wells just because there happened to be a period of flush production would not be indulged by the industry at the present time, would it? I mean, that would seem to be a reasonable opinion.

Mr. ANDRUS. Yes.

Mr. FELL. Senator Moore, isn't this what you have in mind, that here we have an industry from which we are getting oil from a res-

ervoir. The next cheapest source from which you can get that oil is oil shale. Mr. Fieldner, of the Bureau of Mines, has testified before this committee that to get oil from oil shale costs about $2.25 a barrel. In the natural laws of competition for a market with competitive sources, until the price of crude oil got up to $2.25 a barrel—I am talking about crude oil from natural reservoirs—there should not be a competitive market. Therefore, the agencies that have in their power the conservation of our natural resources should also take into consideration the fact that low prices create waste, and that we have a little different situation from other industries where competition might be from other sources. Therefore, if conservation is properly handled you will have a high enough price to make it possible to get the greatest ultimate recovery, using stripper wells and all other means.

Is that what you had in mind?

Senator MOORE. That is probably stated a little differently. My point is this: That the oil industry itself, being mindful of the need over the long pull of conserving this oil as long as possible, will prevent the abandonment of wells that produce a substantial amount of oil that make up the requirements of the country, and will maintain a price and maintain a program with a balance of the oil from the small wells and the flush wells.

Mr. FELL. Supply and demand?

Senator MOORE. Yes; that is right. That is a better thing to do, and a much better thing to do than to get into the complex situation of the Government's paying stripper wells a subsidy.

Mr. FELL. I think the whole industry would agree with you on that.

Senator MOORE. I think that surely must be the sentiment.

Mr. FELL. And that is in the hands of the States.

Senator MOORE. That is in the hands of the States and the industry, itself.

Mr. FRASER. Wouldn't it be perhaps preferable, although I do not know, instead of paying out Government money to squeeze out the last ounce, to let a little foreign oil in?

Mr. FELL. Well, now, here is your problem with that, Mr. Fraser: You abandon those wells, and you must realize you cannot go back and redrill them, and that resource is lost forever.

Mr. JACOBSEN. Mr. Chairman, may I make two minor points?

The CHAIRMAN. Mr. Jacobsen.

Mr. JACOBSEN. One of them is that no matter what subsidy may be paid to stripper wells, and no matter what the price may be, there will always be some oil left in the ground. In other words, at a certain price level it may not pay to produce a well at less than, say, three barrels a day, at a certain depth. Raise the price, and it might pay to produce it down to two barrels a day. My point is that no matter what the price is, you will get to the point where you will always have a stripper well by any definition. That is one point.

The other one is that I think it would be generally agreed that the use of the most advanced production technology that we have heard a lot about here, repressuring, recycling, and lots of other things, will mean that there will be less oil left underground in the future to be recovered by these expensive recovery methods. In other words, we hope that among the dividends that would be paid by the use of better

recovery methods will be less oil left underground as stripper wells, as time goes by.

Senator Moore. That can be effected by making secondary recovery applicable in all cases.

Mr. Jacobsen. That is quite right.

Mr. Andrus. But we must remember that there are enormous areas, though, in which less than half the oil has been taken out, let us say, up till the last few years.

Senator Moore. Yes. I am not intending to discourage effort at secondary recovery and additional methods that may be discovered. But since Mr. Jacobsen has said that under the present more enlightened methods of producing there is less oil left, therefore there is less reason for the application of what we have been talking about here in your paper as secondary-recovery methods.

Mr. Andrus. With proper engineering, there really should be no secondary recovery. Either water or gas should be pumped back into the reservoir, and the whole thing should be done in one well in some 10 or 15 years, rather than over a longer period of time.

Senator Moore. It is tending in that direction now, is it not, under present methods of production?

Mr. Andrus. Yes.

Mr. Fell. Senator Moore, I want to get clear in my mind what you are saying. Are you saying that there should be an adequate price?

Senator Moore. I know that there should be an adequate price. I am not in the oil business now, but I have always favored that.

Mr. Fell. That is what I thought you meant.

The Chairman. May I ask you one other question, Mr. Andrus?

If a well has reached the secondary stage, and that recovery is carried on by reason of a subsidy or by reason of a capital investment, and then for any reason production is stopped, does that have any effect upon the ultimate possible recovery? Can you resume the production of oil from such a well?

Mr. Andrus. From secondary-recovery wells?

The Chairman. Yes; after you have abandoned it.

Mr. Andrus. Not after you have abandoned it. Of course with water flooding, if you stopped the process even for a few days, you have an enormous loss. Something happens in the sand, the oil and water mix, and you never can get the thing in motion again.

The Chairman. So that it is desirable to keep the thing moving. Is that the idea?

Mr. Andrus. It must be kept moving if you are going to get a payoff on it, even under rather unfavorable conditions.

The Chairman. Now, suppose, for example, that this program, which is now in effect of a Government subsidy on stripper wells, were stopped and by reason of the withdrawal of the subsidy operations were suspended, what would be the effect upon the ultimate recovery?

Mr. Andrus. It would make for a decided cut in recovery.

The Chairman. I mean ultimately. Of course, there would be an immediate effect, but I am talking about the ultimate effect.

Mr. Andrus. It would be the ultimate effect, I would say, because with the movement of oil through sands, and with a water-soaking action, something happens and just plugs the thing off.

The CHAIRMAN. Thank you very much.

Captain FRANCHOT. I think, Mr. Chairman, to amplify Mr. Andrus' statement on that fact, there are, of course, examples where very fine results are obtained by the use of gas and air as repressuring elements. In those fields, cessation of operation or diminution of operation is not as injurious as it is with water flood sections. And there are gentlemen here, I think, who will bear me out on that.

Mr. FELL. I think it might enlighten you, Mr. Chairman, to know of cases in fields that were drilled back in 1912 and 1913, where they drilled wells 150 feet from the line, with 300 feet between locations. They produced those wells wide open. There was no conservation at all in those days. They have gone in there, since 1935, and drilled over 200 wells in one field that I know of, and have got wells producing as much as 180 barrels a day, showing what happened when they bypassed that oil and left it in the sand by wide-open flow.

That is being done away with under present production patterns.

The CHAIRMAN. The chairman is advised that the oldest producing oil well in the United States is represented in the room today in the person of William J. Brundred. Mr. Brundred, I understand one of your wells was drilled in 1861.

Mr. BRUNDRED. Yes; 1861. It has been under continuous production for 85 years.

The CHAIRMAN. And you have secondary-recovery methods at that well?

Mr. BRUNDRED. Yes; we have beneficent methods there yet that are going to require closer spacing to get maximum production from that area. But that field has been stimulated partially, and it would be greatly increased by more intensive development.

The CHAIRMAN. Do I understand that this well has been producing for 85 years?

Mr. BRUNDRED. Yes.

The CHAIRMAN. And what is the foreseeable future of production in your well?

Mr. BRUNDRED. It is making now, I would say, about a quarter of a barrel.

The CHAIRMAN. I see.

Mr. BRUNDRED. The surprising part of it is that when we take a core of the oil sands adjacent to that well, it shows a surprising amount of oil in there, and we could get out more in the development.

The CHAIRMAN. In what part of Pennsylvania is this well, Mr. Brundred?

Mr. BRUNDRED. It is near Oil City.

The CHAIRMAN. Well, we wish you good luck and a long life.

Captain FRANCHOT. Mr. Chairman, I do not want to seem to vie with Mr. Brundred, but we have wells that have been producing over 65 years in the Bradford field.

The CHAIRMAN. That is still 20 years short.

Mr. BRUNDRED. We had to change the pumps on our well and make them pump a little better so I could make a trip to Washington.

Mr. FELL. Have you finished with Mr. Andrus?

The CHAIRMAN. Yes.

Mr. FELL. Mr. H. M. McClure is our next witness. He will discuss conservation of stripper wells.

STATEMENT OF H. M. McCLURE, PRESIDENT OF NATIONAL STRIPPER WELL ASSOCIATION, AND CHAIRMAN OF THE STATE OIL BOARD OF MICHIGAN

Mr. McClure. My name is H. M. McClure and my home is in Alma, Mich. I am president of the National Stripper Well Association, chairman of the State oil board of Michigan, and have been engaged continuously in the drilling and producing segments of the oil industry since 1919.

The National Stripper Well Association is composed of district and State oil and gas associations located in various oil-producing sections of the Nation and interested in the production and preservation of the petroleum reserves underlying our stripper wells.

It is a unique privilege and honor that one from the ranks of manual labor should have the opportunity to appear before this distinguished committee to acquaint you with facts concerning our stripper wells and the need for conservation of the underlying petroleum reserves.

When it is first discovered, the oil in a new pool is under pressure caused by gas compressed within the reservoir itself or by the pressure of water in the same or in surrounding formations trying to force its way into the reservoir. This pressure causes the oil to flow from the reservoir into the drilled wells. Once inside the well it is usually an easy matter to lift it to the surface. As a general rule, in the process of production the inherent propulsive force that moves the oil into the well bore continually declines as oil is produced. As a result, long before all the oil in a reservoir has been produced the energy remaining declines to the point where oil is not forced into the wells at a rate adequate to make the continued operation of the wells economic. In other words, an exhausted oil pool is not one from which all the oil has been produced, but, rather, one in which the primary reservoir energy has been depleted. Thus, as the energy of a reservoir is depleted wells pass from the flush stage, through the settled stage and into the stripper class.

A stripper well may be defined as any oil well producing at a cost which approximates the revenue from the sale of its production. The depth or size does not necessarily determine its classification. It may be a 1-barrel well at 500 feet or a 50-barrel well at 5,000 to 10,000 feet; the principal factor being the cost of production in relation to the amount of money received therefor.

The most recent authoritative survey of stripper-well production was made by the Interstate Oil Compact Commission and the National Stripper Well Association covering the year 1944. [*Infra*, exhibit A, pp. 116–132.]

It discloses that of the 412,851 producing oil wells in the Nation, 296,388, or 71.8 percent, are classified as stripper wells. In 1944, these stripper wells produced 217,041,621 barrels of oil, or 12.9 percent out of a total United States production of 1,678,376,000 barrels. Average daily production per well was 11.1 barrels for all oil wells and 2.0 barrels for the stripper wells.

The number of stripper wells producing in 1944 was 3,107 greater than in 1942, when the previous survey was made. The survey likewise shows that the stripper wells produced approximately 14,000,000 barrels more in 1944 than in 1942. This oil was sorely needed for the successful prosecution of the war when flush and semiflush wells

in many parts of the country were being produced at rates above their maximum efficient rates of production.

I would like to add that millions of barrels were lost in that process in producing many of our good pools above the maximum efficient rate. Engineers who are competent will testify on that statement.

The CHAIRMAN. How much was the loss, do you estimate?

Mr. McCLURE. In barrels, I do not have the figures. But I say the fact that they were produced at 15 percent above the maximum efficient rate means that several million barrels are lost in that process, due to premature depletion of the reservoir energy and the coning of water in those pools.

Senator MOORE. You mean as far as ultimate recovery is concerned?

Mr. McCLURE. As far as ultimate recovery is concerned; yes.

The CHAIRMAN. Thank you.

Mr. McCLURE (resuming). In fields now developed, we have a total of 298,000 stripper wells with reserves conservatively estimated at 4,000,000,000 barrels; 20 percent of our Nation's total reserves which approximate 20,000,000,000 barrels.

The preservation of marginal or stripper-well properties by the application of secondary-recovery methods is a conservation measure of great importance, and one that should be carefully considered in the formulation of a national oil policy. Secondary recovery is the term generally applied to the process of stimulating oil recovery by augmenting reservoir energy by the injection of water, gas, or air into the reservoir. This is usually done after the primary recovery phase has passed. The cost of applying secondary recovery varies with many factors, chief among which are the depth from which the production is obtained and the propulsive method used. It is generally agreed that development costs alone on water flooding range from \$700 to \$3,000 an acre, and with compressed gas or air, \$100 to \$1,000 per acre, in depths shallower than 2,000 feet. In the absence of a profit incentive adequate to justify this extra expenditure, premature abandonments have and will occur with irretrievable loss to the Nation of this large, valuable, and irreplaceable portion of our natural resources.

Briefly, I would like to explore the question of the Senator and one other gentleman as to whether or not the oil can be retrieved after the well is abandoned. On that point, the consensus of the oil industry is that it is very impracticable to recover it after the wells have once been abandoned, due to a very high economic level of recovering the oil in the sand, and the further fact that when they are abandoned, the control of water in the wells that were abandoned will many times affect the oil in place, and one of the prohibiting factors in the larger pools is the fact that the royalty interest might be as high as 600 different royalty owners under one tract of land that was subsequently passed to the State and further subdivided, and in many instances, in my experience, it has been prohibitive to re-lease that land for the recovery of oil where the economic value of it was questionable.

Captain FRANCHOT. Mr. McClure, may I interrupt you there?

Mr. McCLURE. Yes, sir.

Captain FRANCHOT. It seems to me you were modest in this cost of development. Just recently, in the last 2 weeks, I have engaged in collaboration with a well-known engineer in Pittsburgh, in a study of

development costs and based on that, I would like to see you raise that first figure so as to read from $700 to $3,500, and raise the second one to $2,500.

Mr. McClure. Captain, I will say this, that this is from a 1944 survey. We have had a 45-percent increase in cost since that time.

Captain Franchot. That would explain it. I would like to recommend that.

Mr. McClure. Yes, sir; we will be glad to accept your recommendation for the record. Thank you, sir.

The Chairman. Do I understand your last sentence to mean that because the subsidy program has been uncertain in duration the secondary-recovery methods have not been installed in many wells where they might have been successfully applied, because private investment was lacking?

Mr. McClure. That is true, Mr. Chairman, particularly due to the fact that ordinary secondary programs do not develop any results usually before the first or second year, and the operators who engage in those projects, if they have their own capital, would be reluctant to spend it without assurance, and they cannot secure it from a bank without a guaranty of repayment, with some assurance that the revenues from the oil will be in excess of the investment.

The Chairman. Are you going to suggest to the committee what standard you think should apply for a Government subsidy program?

Mr. McClure. Mr. Chairman, I have some further remarks. I would like to answer that question when I come to it.

The Chairman. Very well.

Mr. McClure. I won't forget it, though. [Resuming:]

The extent of secondary-recovery operations in the United States has been investigated by the A. P. I. subcommittee on secondary-recovery methods. During 1942, operations affected a minimum of 306,282 acres of oil-productive territory on which there were some 50,636 wells. These comprise 1,236 different projects located in 254 separate fields with an estimated plant investment of $281,496,000. The value of secondary-recovery oil produced in the United States during 1942 is estimated to have been $84,000,000. Therefore, only one-sixth of our total stripper wells and productive acreage received any benefit from secondary-recovery operations, while a large majority of the remaining number are unable to receive any benefits from this work due to lack of price incentive. The fact that the premium-payment plan for stripper well production, inaugurated by the Government August 1, 1944, is only on a temporary basis, has not fully justified, in many instances, the expenditure or investment necessary to engage in these operations.

In speaking of such operations, we usually think of shallow fields because most of them in the past have been confined to shallow depths. But this again is due to the economics of the situation. With an adequate price incentive, it is practicable and feasible to apply secondary-recovery operations to wells of much greater depth than has been done heretofore. Every oil well eventually becomes a stripper. The majority of fields in all parts of the country are adaptable to secondary-recovery operations provided the crude-oil price is adequate to cover the added cost of this expensive method of operation.

In the 1944 survey made by the Interstate Oil Compact Commission and the Stripper Well Association, information was developed cover-

ing the additional reserves which may be recovered from stripper wells by secondary-recovery methods with a price increase of 25 cents a barrel, 50 cents a barrel, and 75 cents per barrel, respectively. Following are the estimates for the United States:

	Barrels
Increase of 25 cents per barrel	337, 000, 000
Increase of 50 cents per barrel	980, 000, 000
Increase of 75 cents per barrel	1, 652, 000, 000
Total	2, 969, 000, 000

That was in 1944. That figure has since been revised to an estimate of 5,000,000,000 barrels, which represents 25 percent of the Nation's total reserves. I would like to say that, under present values, that 25 percent of the total reserves of the Nation represents $5,000,000,000. Figures will be introduced to this committee, or have already been released, that show the present cost of finding a barrel of oil in the United States at approximately $1 a barrel, to find it alone. And the topic at hand is 5,000,000,000 barrels of oil underlying these stripper wells already found. We think it is in the interest of the national welfare and national security to give adequate consideration and weight to this topic. I amplify that for the reason that this oil has already been found and the present market value of it is $5,000,000,000. That is on the assumption it costs $1 a barrel to find it. I think the OPA report reflects 91 cents.

The CHAIRMAN. Have you made any estimate of what it would cost the Government to finance such a program as is here suggested?

Mr. McCLURE. In answer to that question, the Government expenditure on the subsidy up to date is about $74,000,000 for 19 months, or $50,000,000 a year. That is what has been spent, predicated on the proposition of conserving these wells until such time as that could be done.

Now, in terms of talking about recovering this oil, I do not think that is your question, is it, Mr. Chairman? You are not speaking of what it would cost to recover this 5,000,000,000 barrels of oil?

The CHAIRMAN. No. What would it cost the Government to finance a subsidy on the basis of the figures that you have here, 25 cents a barrel, or 50 cents a barrel, or 75 cents a barrel?

Mr. McCLURE. Reflecting the figures we have here of this survey, they would indicate, in direct answer to your question, irrespective of the source of the revenue, that 75 cents a barrel would be needed to protect this 5,000,000,000 barrels of reserves at our present economic levels, because 25 cents reflects a small portion, 50 cents about three times as much, and 75 cents twice as much.

The CHAIRMAN. Would the total cost to the Government be, let us say, on this 75-cent basis, 75 cents times 1,652,000,000?

Mr. McCLURE. No; the answer to that question would be that it would be exactly twice as much as has been expended. In other words, it would be $100,000,000 a year to reflect this 75 cents a barrel. The average on the present payment is reflected at about $36,000,000.

The CHAIRMAN. That answers my question.

Mr. JACOBSEN. Mr. Chairman, wouldn't it amount to more, because if you get more barrels out, it would cost more money?

Mr. McCLURE. The point there is that we all recognize there is an economic limit to this program at some point. It would not come out any faster over a period of time. In other words, the recovery of

this oil we are talking about is over a 10-, or 15-, or even a 20-year period, Mr. Jacobsen.

The CHAIRMAN. Now, the social justification for the subsidy program, the whole of it, under OPA, was in a few words, simply this: That the cost of the Government purchases and the cost to the public of purchases for private consumption of all commodities that were covered by ceiling prices would be less if the ceilings were maintained and subsidies paid to increase production than if no ceilings were maintained and prices were permitted to skyrocket.

Now, what is the social justification of a continuation of a subsidy program for a secondary recovery of oil after the war?

Mr. MCCLURE. The original premise that I would hold—this is after the war; you are not talking about the war—is that the logical answer is to permit the price to be high enough to take care of this. That would be the social justice. You gentlemen do not regulate the price. We are not asking you to.

The CHAIRMAN. I have not made myself clear. Let me put my question another way. You believe that the increased recovery to be obtained from the payment of a Government subsidy to the stripper well, after the war and when peace has been restored, will produce a sufficiently greater amount of oil, which otherwise would be lost, to justify the Federal expenditure for that purpose?

Mr. MCCLURE. On that point, Mr. Chairman, if the price were high enough to do this, that would not be necessary.

The CHAIRMAN. Yes; of course, that is true. But assuming the price does not get high enough to do that, because there is so much flush production, what would be the case?

Mr. MCCLURE. On that assumption, the 5,000,000,000 barrels that we are referring to, we say that we recommend that that is in the interest of the public welfare and our national security; if that be true, and the price does not become adequate to protect us, then I think it is a problem of you gentlemen sitting on that side of the table to decide whether or not it is in the public interest and the national security. Of course, I am not attempting to debate with you, Mr. Chairman; I am trying to answer your question.

The CHAIRMAN. Neither am I attempting to debate with you. I am just asking questions to get out your point of view.

Mr. MCCLURE. I appreciate that. But I did not mean that I want to assume your prerogatives as a Senator.

On your question, if the flush production or the imports, which are to be discussed here in my paper, are such that they would destroy the recovery of this oil, then the question for the Congress to decide is, Is it in the public interest? I would be unable to state that.

As to the flush production, we now have two-thirds of it regulated by conservation laws in the United States, that are supposed to produce without waste.

The CHAIRMAN. Then you are not making a recommendation?

Mr. MCCLURE. Sir?

The CHAIRMAN. Then do I understand that you are not making a recommendation to Congress?

Mr. MCCLURE. I think at this point, in order to give you a direct answer, Mr. Chairman, to your question—you asked me whether or not

I am recommending a subsidy? That is in essence what you asked me a while ago?

The CHAIRMAN. Yes.

Mr. MCCLURE. I think the proper answer to that would be the same as that of the gentleman who explained about his beloved wife in Tennessee, that he could not live with her, and he could not live without her. I think that is true of the subsidy. We cannot live with it due to the temporary nature of it on the one hand, and we cannot exist without it, and without the amount involved therein. Many of us have already reclined to the tombs of economic death, due to the low price of crude oil, who happen to be engaged in this business. I am only stating that the 5,000,000,000 barrels of oil under these stripper wells, in my opinion, are in the public interest and our national security. Now, if economic levels do not approximate or tend to take care of that situation, then I think it is the Congress' obligation and prerogative to make that decision, and not me as a small operator.

The CHAIRMAN. I see. Then it boils down to this, that you are telling the committee, and through the committee the Congress, that there is this vast amount of oil to be recovered: and you are leaving it up to us to decide whether or not the Government should pay a subsidy to get it out?

Mr. MCCLURE. Yes, sir; that is my position.

The CHAIRMAN. All right, sir. Thank you very much.

Mr. MCCLURE. I think I would be making a bad assumption if I attempted to write your recipe on this topic, Mr. Chairman. [Resuming:]

The above survey was limited to fields where there were sufficient data available upon which to base reasonable estimates with all questionable and unknown areas eliminated. In my opinion, a complete survey, taking into consideration the increased efficiency of present-day secondary recovery methods, will show a much larger increment of reserves, possibly doubling the above figure.

The crude oil price structure was probably the greatest single handicap under which the production branch of the oil industry operated during the war. Crude oil prices were frozen by the stabilization program at the October 1941 level. At that time crude prices were at a low level resulting from the flood of oil made available by the discovery and development of a large number of prolific oil pools in the 1930's. From 1938 on, discoveries had been distinctly disappointing, and crude oil prices were undergoing an upward readjustment under the normal economic processes of supply and demand. When the Office of Price Administration froze prices at the October 1941 level, this normal upward readjustment was terminated. Operating costs mounted continually during the war period but except for a few minor adjustments in isolated pools crude oil prices are still held by OPA down to the October 1941 level.

This crude oil price structure has adversely affected both the large and small operator, but it has worked a particular hardship on the operators of stripper properties because of the narrower margin between their inherent higher operating costs and sales realization from the crude oil produced.

Throughout the war period, and continuing up to this very minute, the oil industry has struggled to obtain relief from this abnormally low price structure.

I might state that it has been announced to this committee that that structure was changed—10 cents a barrel, I believe you now said, Mr. Chairman.

In May 1943 the Petroleum Administrator for War formally requested the Office of Price Administration to raise crude oil price ceilings by an amount averaging at least 35 cents per barrel because of the importance of maintaining an adequate supply of oil for war purposes and because the price ceilings were set below the actual cost of production of much of the oil. The Office of Price Administration refused to raise crude oil price ceilings and in late October 1943 Economic Stabilizer Fred M. Vinson reaffirmed OPA's denial of a price increase.

In June 1944 Economic Stabilizer Vinson issued a directive, effective August 1, 1944, which established the stripper subsidy plan. Under the plan the first purchaser of all oil produced in fields certified by OPA as qualifying for the subsidy would be reimbursed, provided the purchaser showed he had paid the full ceiling price plus the applicable subsidy to the producer. The amounts of subsidy were as follows:

35 cents per barrel from fields in which the average production per well per day was less than 5 barrels;

25 cents per barrel from fields producing more than 5 but less than 7 barrels per well per day;

20 cents per barrel from fields producing 7 or more but less than 9 barrels per well per day;

75 cents per barrel from fields in Pennsylvania, West Virginia, New York, and Ohio, that produced Pennsylvania grade oil.

The principal aims of the establishment of the stripper subsidy were to discourage premature abandonment of wells and to encourage starting secondary recovery projects and to prolong the operation of projects already started. Although subsidy payments did retard the rate of abandonment of wells, a fair and equitable price would have offered even more encouragement to the continual operation of these wells. Stripper subsidy payments also encouraged the continuation of secondary recovery projects already in operation. Few new secondary projects were started because the temporary nature of the subsidy plan gave no assurance of payments for a period long enough to justify the added investment.

The abandonment of uneconomic wells is a continuing process in the operation of the oil industry. The rate at which abandonments occur fluctuates with economic conditions of operation. The chief factors that influence the abandonment of wells are:

1. The return received for the oil produced.
2. The condition of the reclaimed materials market.
3. Whether or not the price of salvageable equipment as used material exceeds the value of the well as an operating unit.

The tabulation below shows the stripper well abandonments from 1940 through 1944:

1940	9,625
1941	11,733
1942	10,541
1943	10,720
1944	9,400

In this 5-year period a total of 52,019 wells were abandoned because their continued operation was not economic.

The decrease in abandonments in 1942 and 1943 as compared with 1941, was no doubt, due to a considerable extent to the patriotism of the owners of stripper wells, in their desire to continue to furnish as much oil as possible for the war effort, realizing that oil was essential to victory. Many of these stripper well owners had sons and other relatives in the armed forces and recognized the importance of oil. The smaller number of abandonments in 1944 can be attributed, in part at least, to the institution of the stripper-well subsidy on August 1, 1944, but it is my firm belief that far fewer wells would have been abandoned during the war period if there had been a fair and adequate price for crude oil.

The stripper well survey shows that 34,297,740 barrels of recoverable oil were left in the producing horizons underlying the oil wells abandoned in 1944, one year alone. When and if abandonments increase, the recoverable oil lost will also increase.

I want to stress the fact that about three out of every four oil wells in this country are stripper wells and that the stripper-well production in 1944 of 217,041,621 barrels nearly matches the 1944 production of the Asiatic Continent, which includes the highly publicized fields of Iran, Iraq, Saudi Arabia, the East Indies, Burma, China, and Japan. It probably is not a good comparison, due to the war situation in those areas, but it is quoted here for the record.

Undoubtedly new oil fields will continue to be discovered. On that, at this time, I think it is pertinent to recite that one of the greatest oilmen of the Nation of all times once offered the suggestion that for every pool that has been found, there is one more that will not be found. That is possibly nothing new, but at times it encourages our thinking, when we think of what has happened.

However, these new oil fields will not be so easy to find as those we are now using. Inevitably, of course, all wells will in time reach the marginal or submarginal stage and will be abandoned. Each time a well is abandoned some oil is left behind in the reservoir. The crude oil price level is the chief factor determining the point of abandonment of a well. The maintenance of an adequate price incentive to keep stripper wells operating will furnish many billions of barrels of additional oil that has been already found and developed.

That is the reason we as small operators do not want to see this 5,000,000,000 barrels plowed under, that has already been found. And truly that eliminates the selfishness. We are talking only of the public interest. Mr. Brundred and I, and many others, have finished our days on the rod wagon, and we can probably finish up the few remaining years without it. But we do say it is important to the national security and the public interest. Mr. Brundred seconded that motion last night, Mr. Chairman, so I am not criticizing his aid.

The maintenance of the disastrously low price level that has prevailed during the war will, on the other hand, result in the loss of these huge reserves.

The serious situation confronting the stripper-well operator was recognized by the Federal Government with the introduction of the stripper well compensatory payments on August 1, 1944. Figures

available indicate that in the 11-month period from August 1, 1944, to July 1, 1945, subsidy payments were made on 136,788,408 barrels, for a total of $49,822,347. The average amount per barrel was 36 cents. The daily average on which these payments were made was 409,832 barrels for a daily average payment of $149,020. It is interesting to note that 8.6 percent of the Nation's production received subsidy payments during the period referred to. It was stated by W. L. Clark, head of the Stripper Well Section of the Office of Price Administration, that the number of wells to which premium-price increases were applicable as of November 1, 1945, was approximately 74 percent of the number of wells producing in the United States during that period.

It has been announced rather recently that the stripper well premium payments or subsidies would be continued until June 30, 1946, unless price ceilings on crude oil should be raised or eliminated in the interim. The continuation of these payments is accordingly indefinite and uncertain. Much of the benefit of these payments has been lost because of increases in wages, and increased cost for materials and supplies. With the war over, stripper well operators cannot be expected to operate wells at a loss for patriotic reasons. If the stripper well premium payments or subsidies are discontinued without an adequate increase in the posted price of crude oil, thousands of wells will promptly be abandoned. Even if the present subsidy payments were continued without any increase in the posted prices for crude oil, there would undoubtedly be an acceleration in abandonments because of the increased costs and the uncertainty as to future economic conditions.

A situation such as the present where 33 gravity midcontinent crude oil is selling at $1.11 per barrel of 42 gallons, which is less than 3 cents a gallon or three-fourths of a cent per quart, seems absurd for an article that is so essential to the national defense and the national welfare.

We are not criticizing the gentlemen who sell the following commodities, but it is only recited on a comparative basis. They may be worth that, or more. I am not prepared to state. Milk sells for around 15 cents per quart, beer 35 cents, and Coca-Cola 27 cents. On a pound basis oil sells for less than ½ cent per pound. Ordinary table salt, ordinarily considered a cheap commodity, sells for 14 times as much as crude oil. On a pound basis, butter sells at 55 cents, cattle at 15 cents, hogs at 14 cents, and cotton at 26 cents, all reproducible or replaceable commodities.

I am just about finished, but at this point I would like to have the privilege of introducing my charts, Mr. Chairman. I have only two charts, upon which no figures are shown. But they are concrete examples of the topic at hand, and I offer them in evidence to show the ridiculous position that we have been in for the last several years.

I also have a souvenir to the distinguished Senator who inaugurated these hearings, Senator Joseph C. O'Mahoney. I have a little oil from his home country.

(A pint bottle of crude oil was placed on the table by the witness.)

The Chairman. I never saw it in that shape before. [Laughter.]

Mr. McClure. This, Mr. Chairman, is a pint of crude oil, and it weighs 1 pound. Previous to the war and during the war, we have

been selling that for ½ cent a pound. That is exhibit B, that is before.

The CHAIRMAN. Is that exclusive of the bottle?

Mr. McCLURE. That is the net weight, Mr. Chairman, yes, sir. That is exhibit B; that is before. That is the crude oil in its natural state, at ½ cent a pound.

In slight contrast, I offer an exhibit that reflects a portion of that crude oil that has been warmed up and congealed; and this little article, which is nothing more than I state, the crude oil after the gases have been removed, and it is congealed and the residue removed, sells for $1.20 a pound.

(A small jar of vaseline was placed on the table by the witness.)

Mr. McCLURE. Many of you have had this little package, vaseline. That sells for $1.20 a pound. We sell the raw product at ½ cent a pound, already transported to the top of the ground from an average depth of over 3,000 feet.

The CHAIRMAN. What I want to know is this: Is that Wyoming vaseline?

Mr. McCLURE. I cannot say as to the authenticity of that, Mr. Chairman.

Mr. MAJEWSKI. What was the price of the stuff that was in the bottle before he put in the crude oil?

Mr. McCLURE. Well, since you have forced me, Mr. Majewski, 2 years ago, the price of the contents—and I say this without reflection or criticism—of that bottle, the ceiling on it was increased to $50.40 a barrel, due to the increased cost of spirits. The cost of spirits was raised 30 cents per quart about 2 years ago, due to increased labor and costs of manufacturing.

That is $50.40 a barrel. The commodity that was in that little bottle, before it was filled with that crude oil, was $50.40 a barrel; and we tried with all our hearts and souls to get our product raised only 40 cents a barrel during the war, to perform a constructive endeavor, and we had no success.

Mr. MAJEWSKI. We were inflationary, Mr. Chairman, not the spirits.

The CHAIRMAN. It may have been a question of lubrication. [Laughter.]

Mr. McCLURE. I say that without criticism of any gentleman in the room, and some that opposed our situation are not present, and I will take that up with them on the outside, later.

But it is important, and it is ridiculous, gentlemen. This article [indicating] costs 4 cents a gallon to produce. Figures will be produced in this chamber tomorrow, or today, by Mr. Becker, showing that it costs $1.60 a barrel to find, develop, and produce crude oil. That is approximately 4 cents a gallon. And we have sold that crude oil for 3 cents a gallon for the last 10 years.

Now, you say, how come we are here? Well, many of us are not here. I tell you truthfully, gentlemen, many more of us had to scrape a little to get the bus fare. But I am not complaining about that. Without criticism, we are glad to come down here, if we should.

The future of the stripper wells and their underlying reserves presents a problem that deserves the serious and careful consideration of the industry and of governmental agencies from the point of view of conservation. The price of crude oil has been at depressed levels

continuously since about 1926. The production cost per barrel varies in accordance with the average daily production of the well and the method of production, whether flowing, pumping, or secondary recovery. As well production declines, the cost per barrel increases, and the operator cannot change that trend. The price received per barrel for the oil determines the economic limit beyond which the well cannot be operated.

Many in the industry believe that with practically no limitation on imports and with flush production and semiflush production the crude oil price structure will be too low to prevent the abandonment of large numbers of stripper wells and the loss of the underlying reserves. In many areas, if the wells are once abandoned, the cost of redrilling in order to carry on secondary recovery operations would be too great to make such a program feasible.

That is true, gentlemen, because in many instances, out West, where to be a producing well a well must really produce, where they have plugged them up after the primary recovery operations and abandoned them entirely, that is a considerable cost, and raises the economic cost to recover the oil.

These people believe that it is contrary to sound conservation and detrimental to our national defense and our national welfare to permit the abandonment of these stripper wells when the price for oil is less than around $2 to $2.25 a barrel, for the next cheapest source of crude oil supply is from oil shale, and the best information available indicates that oil from such a source cannot be made available at less than $2.25 a barrel. (That figure perhaps should have been $2. So I leave some latitude there.)

The question, therefore, presented is whether it is in the interest of national defense and the welfare of our Nation to endeavor to find some means to conserve this oil that would be lost through the abandonment of wells when they reach their economic limit under normal competitive price conditions.

There are differences of opinion within the industry on this important question but I believe that your committee should have for its consideration the various viewpoints that have been expressed. These briefly are as follows:

1. Some believe that when a producing oil well reaches its economic limit under normal competitive prices, it should be abandoned and that there is no justification from the conservation angle of endeavoring to do anything to assist in keeping it in operation. Many who believe in this theory do believe, however, that the posted price for crude oil should be sufficiently high to keep the vast majority of these stripper wells on production and to prevent premature abandonments.

2. Some in the industry have suggested that there should be a floor on crude oil prices for production from stripper wells. In other words, they suggest that, for example, the price for, say, 36 gravity Mid Continent oil, from stripper wells should never be less than $1.80 or $2 per barrel; that if the posted price for crude oil declined below that level, some means should be devised whereby the stripper well operator would receive the difference between the posted price and the price floor referred to.

3. The National Stripper Well Association, of which I am president, favors the enactment by Congress of a law which would grant a fixed

differential in the price per barrel for stripper-well production over and above the general market price and that such additional payments should be made out of the general fund. Our association believes that this is in the interest of conservation of an irreplaceable natural resource, essential to the economic and general welfare of the Nation, and that unless such a price differential is provided for, thousands of stripper wells will be abandoned in the reasonably near future and millions and millions of barrels of recoverable oil will be lost. A copy of the resolution adopted at the annual meeting of the National Stripper Well Association at Tulsa, Okla., on October 15, 1945, in support of the proposal referred to, is attached hereto as exhibit B. [*Infra*, p. 133.]

4. The Pennsylvania Grade Crude Oil Association favors the enactment by Congress of legislation making the present so-called stripper well subsidy payments permanent. In the Pennsylvania Grade area in New York, Pennsylvania, Ohio, and West Virginia there are 147,000 stripper wells averaging one-half barrel a day and with a high quality of lubricating oil content. Every well some day becomes a stripper. In New York and Pennsylvania there are many secondary-recovery projects in operation. A copy of the resolution adopted by the Pennsylvania Grade Crude Oil Association on September 17, 1945, is attached hereto as exhibit C. [*Infra*, p. 133.]

5. An oil conservation committee has been organized by Oklahoma and Kansas chambers of commerce, businessmen, and independent oil operators, to support the securing of permanent price differentials for stripper wells in the oil-producing States. Several chambers of commerce in oil communities have adopted resolutions in support of that program. A copy of the resolution adopted by the Bristow (Okla.) Chamber of Commerce is attached hereto as exhibit D. [*Infra*, p. 133.]

In many of these communities the old stripper well fields are the economic backbone of the community and the livelihood of many, not only of the stripper-well operators and their employees but the livelihood of many others in the community is also dependent on the continued operation of these stripper wells. They also furnish substantial funds for the tax support of the communities and States.

6. At the sixteenth annual meeting of the Independent Petroleum Association of America, held at Tulsa, Okla., on October 16, 1945, a report of the secondary recovery committee of that association was unanimously adopted. In that report the seriousness of the stripper-well problem was recognized and officers of the association were instructed to study the problem carefully and immediately contact the governmental agency which they deemed proper with the proposition that that agency make a prompt survey of the situation, including (a) location and amount of reserves involved, (b) their value to our national economy and national defense, and (c) the problems involved in their recovery.

It was further suggested that after a survey was completed the governmental agency make definite recommendations toward the solution of the problem. Section I of the secondary recovery committee's report referred to covers the particular matter in question and a copy of that report is attached hereto as exhibit E. [*Infra*, p. 134.]

This stripper-well problem and the handling of it, it seems to me, is an important factor in connection with national oil policy, and it is hoped that your committee, after studying the situation carefully, will make some recommendation as to a proper solution.

In conclusion, I wish to thank you for your courtesy and attention and we will be very glad indeed to endeavor to submit to you any further information that you may wish in connection with the subject of the conservation of stripper wells.

(The exhibits submitted by Mr. McClure are as follows:)

Exhibit A.—The National Stripper Well Survey—1944

(By E. G. Dahlgren,[1] George Pasquella[2])

The National Stripper Well Association and the Interstate Oil Compact Commission again present the national survey of stripper wells, comprising data from 22 oil-producing States. The results of the last previous survey (1942) were presented at the compact meeting in Wichita, April 3, 1943. No survey was made for the year 1943. In the 1944 survey, a stripper well is defined as a well whose production expenses approximate income, so that under this definition a deep well with substantial production may be classified as a stripper well.

Of the 412,851 producing oil wells in the Nation, 296,388, or 71.8 percent, are classified as stripper wells. In 1944 these stripper wells produced 217,041,621 barrels of oil, or 12.9 percent, out of a total United States production of 1,678,376,000 barrels. Average daily production per well was 11.1 barrels for all oil wells, and 2 barrels for the stripper wells.

The attached summary sheet is intensely interesting, not only from the standpoint of United States totals, but also as a basis of comparison to the 1942 survey. The number of stripper wells producing reached an all-time high, the 1944 figure of 296,388 being 3,107 greater than in 1942. A similar comparison on production shows that the stripper wells produced approximately 14 million barrels more in 1944 than in 1942. This oil was sorely needed for the successful prosecution of the war effort when flush and semiflush wells in all parts of the country were being produced at rates above their maximum efficient rate of production. It is particularly significant to note that the number of wells abandoned in 1944 was 1,141 less than in 1942. In 1942 there were 44 million barrels of recoverable oil left in the ground under strippers abandoned that year as compared to 34 million barrels of recoverable oil left in the ground under the 1944 abandonments.

The patriotic motive of the stripper operators kept many a well in operation during the war years after its economic limit had been reached. This is true even with the Federal compensatory payments to certain districts. With the scarcity of labor and materials presenting very difficult production problems, and the rising costs of producing oil, the operators were in a very difficult squeeze. Their plight was finally recognized by the Federal Government, and on August 1, 1944, compensatory payments were begun. In pools averaging less than 9 barrels per well per day, this payment was 20 cents per barrel; less than 7 barrels, 25 cents per barrel; less than 5 barrels, 35 cents per barrel; and a flat 75 cents per barrel in Pennsylvania, New York, Ohio, and West Virginia for pools producing Pennsylvania grade crude. Pools producing other grades of crude in the above-named States received the regular payments applicable to the rest of the country. This additional income to the stripper operator provided the necessary funds for the reconditioning and cleaning out his wells and the replacement of some of the worn-out equipment. This condition is reflected in the additional 14 million barrels of oil produced in 1944 over and above the 1942 production figure. Now it becomes a matter of greater importance than ever that the reserves underlying stripper wells be preserved, because many oil fields, damaged by their high rates of production, have lost a substantial part of their reserves forever by pulling the wells too hard to meet the requirements of a Nation at war. War proved that oil is ammunition, and

[1] E. G. Dahlgren, Technical Secretary of the Interstate Oil Compact.
[2] George Pasquella, consulting geologist and engineer, National Stripper Well Association.

every barrel possible should be conserved, not only for a possible future emergency but also to meet the greater peacetime needs. Secondary methods of operation were not expanded to any great degree largely due to the acute shortage of pumps and compressors, which the armed forces needed in the war effort.

Item 8 on the summary sheet offers some interesting data about estimated additional reserves which may be recovered from stripper wells by secondary methods; first with a price increase of 25 cents per barrel, 50 cents per barrel, and 75 cents per barrel. Following are the estimates for the United States:

	Barrels
Increase of 25 cents per barrel	337, 031, 550
Increase of 50 cents per barrel	979, 728, 575
Increase of 75 cents per barrel	1, 651, 815, 950

There are, roughly, reserves of 3 billion barrels of oil in the United States that can only be recovered by secondary methods, and it is evident from the above tabulation that a substantial price increase in oil will be necessary to recover the major part of these reserves.

The national stripper-well survey, 1944

	Arkansas	California	Colorado	Illinois	Indiana	Kansas	Kentucky	Louisiana	Michigan	Mississippi	Missouri
1. Number of stripper wells producing at close of 1944	2,436	10,500	101	15,050	1,449	16,760	14,300	2,677	2,783	31	123
2. Production in barrels of stripper wells in 1944	6,088,631	29,400,000	155,420	7,367,000	[1] 2,039,000	28,800,000	4,604,079	6,107,660	6,230,043	167,590	45,000
3. Average price of stripper-well production in 1944	$0.95	$0.98	$1.11	[2] $1.30 [6] $1.46	[1] $1.60	$1.18	$1.42	[3] $1.06	[4] $1.42	$0.93	[5] $1.17
4. Productive acres of stripper wells at close of 1944	26,498	87,000	3,070	106,000	8,065	135,000	52,000	208,750	31,205	1,120	710
5. Productive acres of all wells at close of 1944	60,610	244,000	5,000	329,050	13,545	250,000	53,700	322,800	49,125	18,440	710
6. Number of producing oil wells abandoned in 1944	52	200	None	600	45	512	175	266	199	27	None
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	90,000	1,000,000	None	[7] 668,000	66,000	1,300,000	250,000	931,000	[8] 100,000	100,000	None
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—											
25 cents ... barrels	None	None	100,000	10,000,000	None	50,000,000	10,000,000	1,100,000	None	400,000	None
50 cents ... do	50,000,000	200,000,000	300,000	25,000,000	1,000,000	85,000,000	50,000,000	40,000,000	None	500,000	100,000
75 cents ... do	100,000,000	300,000,000	500,000	45,000,000	1,500,000	155,000,000	90,000,000	85,000,000	[9] 1,250,000	575,000	200,000

	Montana	Nebraska	New Mexico	New York	Ohio	Oklahoma	Pennsylvania	Tennessee	Texas	West Virginia	Wyoming	Total, United States
1. Number of stripper wells producing at close of 1944	1,860	72	1,102	20,900	22,483	49,398	83,000	15	32,170	17,300	1,878	296,388
2. Production in barrels of stripper wells in 1944	2,731,098	440,000	2,464,385	4,772,514	2,103,593	58,200,000	14,118,000	9,500	35,226,150	3,115,783	2,856,175	217,041,621
3. Average price of stripper-well production in 1944	[1] $1.19	$1.10	$1.04	$3.313	$1.96	$1.16	$3.237	$1.47	$1.18	[10] $2.59	$0.95	-------------
4. Productive acres of stripper wells at close of 1944	23,918	1,380	42,040	71,000	823,372	690,000	505,000	105	289,530	138,400	27,475	3,271,638
5. Productive acres of all wells at close of 1944	40,729	1,380	162,960	71,000	843,372	831,000	505,000	105	2,750,000	138,400	76,157	6,767,083
6. Number of producing oil wells abandoned in 1944	21	18	1	428	594	1,200	2,450	14	2,376	145	9	9,400
7. Total number of barrels of recoverable oil left in												

producing horizons underlying oil wells abandoned in 1944	23, 780	175, 000	1, 460	560, 000	850, 000	3, 000, 000	1, 000, 000	10, 000	23, 000, 000	1, 160, 000	12, 500	34, 297, 740
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—												
25 cents____barrels__	Trivial	None	5, 000, 000	1, 000, 000	2, 000, 000	[1] 60, 00, 0000	50, 000, 000	None	125, 000, 000	[12] 20, 000, 000	2, 431, 550	337, 031, 550
50 cents_______do____	1, 757, 475	None	10, 000, 000	2, 000, 000	6, 000, 000	100, 000, 000	100, 000, 000	75, 000	250, 000, 000	50, 000, 000	7, 996, 100	979, 728, 575
75 cents_______do____	3, 514, 950	None	20, 000, 000	[11] 7, 000, 000	15, 000, 000	185, 000, 000	150, 000, 000	100, 000	375, 000, 000	[13] 100, 000, 000	17, 176, 000	1, 651, 815, 950

[1] Unofficial estimate.
[2] Subsidy payments not included.
[3] Does not include subsidy premium payment.
[4] Average price for all oil including subsidy—unable to get an average price for stripper wells alone.
[5] 82 cents plus subsidy of 35 cents.
[6] Includes subsidy.
[7] Disregarding economics.
[8] Unknown, a guess.
[9] Secondary recovery has not as yet proved economical in Michigan. If price of crude was raised 75 cents per barrel additional wells would be drilled which would increase estimated recoverable reserves by figures shown.
[10] $2.59 since Aug. 1, 75-cent subsidy.
[11] With an increase of $1 in the price, 10,000 barrels would be recovered.
[12] 100,000,000 recoverable.
[13] In addition to subsidy.

PRICE INDEX CHART

All of the data that were used in the preparation of the price index chart were obtained from publications of the United States Department of Labor, Bureau of Labor Statistics. In these statistics the average 1926 prices were assigned an index value of 100, or parity, and the successive monthly prices of the various commodities are all percentages of the 1926 index figure of 100.

The curve of "All Commodities" shown on the chart includes index prices of farm products, foods, hides and leather products, textile products, fuel and lighting (of which crude petroleum is a subdivision), metals and metal products, building materials, chemicals and allied products, house furnishing goods and miscellaneous products. Many thousands of prices are averaged together by the weighted aggregate method in order to determine the index price (compared to 1926=100) for each month, subsidies not being included. The index price of all commodities can therefore be considered as a representative cross-section of the general economic condition of the country.

The price chart shows that over the past 20-year period, all commodities reached a peak of 106.1 and farm products reached a peak of 130.4 in June 1945, while the index of the posted price of Oklahoma-Kansas crude remained at 58.9 in June 1945, the same figure which it had been every month since June 1941. The following tabulation will serve to give a further comparison:

	Year 1926	December 1941 (United States enters war)	20-year peak (June 1945)	Present index (August 1945)
All commodities	100	93.6	106.1	105.7
Farm products	100	94.7	130.4	126.9
Posted price Oklahoma-Kansas crude	100	58.9	58.9	58.9

In comparing the index prices for the period from December 1941, when the United States entered the war to the present time (August 1945), it is interesting to note that the index of all commodities is 12.1 points higher, the index of farm products is 32.2 points higher, and the index of Oklahoma-Kansas crude shows no increase, but has remained at the same figure for the past 50 months.

An increase of $0.88 per barrel in the price of Oklahoma-Kansas crude would make the index figure on crude the same as for all commodities in August 1945. It would take an increase in price of $1.28 per barrel over the present posted price of Oklahoma-Kansas crude in order to make the index price of crude equal to the index of farm products in August 1945.

Table No. 4 is a compilation of the index prices for Oklahoma-Kansas crude, with various hypothetical increases. The maximum stripper subsidy in the Oklahoma-Kansas area is 35 cents per barrel, and adding this 35 cents per barrel to the present posted price, the index price becomes 77.5. This figure is well below parity (100) and far below the index prices of all commodities and farm products.

TABLE 1.—*Number of stripper wells and annual production of stripper wells*

State	Number of wells		Annual production	
	1944	1942	1944	1942
			Barrels	*Barrels*
Arkansas	2,436	2,534	6,088,631	8,168,732
California	10,500	12,000	29,400,000	33,456,000
Colorado	101	102	155,420	179,152
Illinois	15,050	14,185	7,367,000	5,500,000
Indiana	1,449	1,374	2,039,000	678,799
Kansas	16,760	15,181	28,800,000	18,797,500
Kentucky	14,300	14,000	4,604,079	4,250,000
Louisiana	2,677	2,735	6,107,660	6,689,280
Michigan	2,783	2,878	6,230,043	6,729,465
Mississippi	31	----------	167,590	------------
Missouri	123	126	45,000	45,000
Montana	1,860	1,479	2,731,098	1,826,219

PRICE INDEX CHART

COMPARISON OF INDEX NUMBERS OF WHOLESALE PRICES
OF ALL COMMODITIES, FARM PRODUCTS AND POSTED PRICES OF CRUDE PETROLEUM, OKLAHOMA-KANSAS 33 GRAVITY

TABLE 1.—*Number of stripper wells and annual production of stripper wells*—Continued

State	Number of wells		Annual production	
	1944	1942	1944	1942
			Barrels	*Barrels*
Nebraska	72	9	440,000	44,711
New Mexico	1,102	606	2,464,385	1,241,730
New York	20,900	21,400	4,772,514	5,450,000
Ohio	22,483	23,711	2,103,593	2,412,358
Oklahoma	49,398	48,775	58,200,000	50,369,000
Pennsylvania	83,000	82,000	14,118,000	18,000,000
Tennessee	15	25	9,500	11,000
Texas	32,170	30,763	35,226,150	33,685,485
West Virginia	17,300	17,543	3,115,783	3,663,000
Wyoming	1,878	1,850	2,856,175	2,000,000
Total, United States	296,388	293,281	217,041,621	203,203,812

TABLE 2.—*Abandonments*

State	1944	1942	Numerical change from 1942	State	1944	1942	Numerical change from 1942
Arkansas	52	142	−90	New Mexico	1	6	−5
California	200	320	−120	New York	428	125	+303
Colorado	None	None		Ohio	594	894	−300
Illinois	668	311	+357	Oklahoma	1,200	1,274	−74
Indiana	45	76	−31	Pennsylvania	2,450	2,500	−50
Kansas	512	557	−45	Tennessee	14	12	+2
Kentucky	175	200	−25	Texas	2,376	3,121	−745
Louisiana	266	357	−91	West Virginia	145	435	−290
Michigan	199	143	+56	Wyoming	9	30	−21
Mississippi	27						
Missouri	None	None		Total, United States	9,400	10,541	−1,141
Montana	21	26	−5				
Nebraska	18	6	+12				

TABLE 3.—*Production, 1944*

State	Thousands of barrels annual production of—		Stripper perecntage	Average daily production per well of—	
	All oil wells	Stripper wells		All oil wells	Stripper wells
Arkansas	29,438	6,089	20.7	25.5	6.8
California	311,776	29,400	9.4	41.6	7.6
Colorado	2,994	155	5.2	57.1	4.2
Illinois	77,052	7,367	9.6	7.4	1.3
Indiana	5,053	2,039	40.4	6.7	3.8
Kansas	98,996	28,800	29.1	10.3	4.7
Kentucky	9,623	4,604	47.8	2.2	.9
Louisiana	129,399	6,108	4.7	49.3	6.3
Michigan	18,510	6,230	33.7	14.8	6.1
Mississippi	16,402	168	1.0	107.3	14.8
Missouri	45	45	100.0	1.0	1.0
Montana	8,529	2,731	32.0	9.6	4.0
Nebraska	440	440	100.0	16.7	16.7
New Mexico	39,563	2,464	6.2	26.0	6.1
New York	4,772	4,772	100.0	.6	.6
Ohio	2,967	2,104	70.9	.4	.3
Oklahoma	124,648	58,200	46.7	6.9	3.2
Pennsylvania	14,141	14,118	99.8	.5	.5
Tennessee	10	10	100.0	1.8	1.8
Texas	748,268	35,226	4.7	21.5	3.0
West Virginia	3,115	3,115	100.0	.5	.5
Wyoming	32,714	2,856	8.7	25.3	4.2
Total, United States	1,678,455	217,041	12.9	11.1	2.0

TABLE No. 4

		Price index
$1.11	Present posted price[1]	58.9
$1.16	5-cent increase	61.6
$1.21	10-cent increase	64.2
$1.26	15-cent increase	66.9
$1.31	20-cent increase	69.5
$1.36	25-cent increase	72.2
$1.41	30-cent increase	74.8
$1.46	35-cent increase	77.5
$1.51	40-cent increase	80.1
$1.56	45-cent increase	82.8
$1.61	50-cent increase	85.4
$1.66	55-cent increase	88.1
$1.71	60-cent increase	90.7
$1.76	65-cent increase	93.4
$1.81	70-cent increase	96.0
$1.86	75-cent increase	98.7
$1.88	77-cent increase	100.0 or parity

[1] Oklahoma-Kansas Crude 33°.

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Wyoming.—Pierre LaFleiche, mineral supervisor, Office of Commissioner of Public Lands, Casper.

STATE OF ARKANSAS

1. Number of stripper wells producing at close of 1944	2, 436
2. Production in barrels of stripper wells in 1944	6, 088, 631
3. Average price of stripper well production in 1944	$0. 95
4. Productive acres of stripper wells at close of 1944	26, 498
5. Productive acres of all wells at close of 1944	60, 610
6. Number of producing oil wells abandoned in 1944	52
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	90, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	None
50 cents ... do	50, 000, 000
75 cents ... do	100, 000, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

The 1944 survey shows 98 less wells than the 1942 survey and approximately 2 million barrels less production. The 52 wells abandoned in 1944 show a sharp decrease from the 1942 figure of 142. No official figures are given for item number eight because a comprehensive survey is now being made in the State covering the subject.

STATE OF CALIFORNIA

1. Number of stripper wells producing at close of 1944	10, 500
2. Production in barrels of stripper wells in 1944	29, 400, 000
3. Average price of stripper well production in 1944	$0.98
4. Productive acres of stripper wells at close of 1944	87. 000
5. Productive acres of all wells at close of 1944	244, 000
6. Number of producing oil wells abandoned in 1944	200
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	1, 000, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	None
50 cents ... do	200, 000, 000
75 cents ... do	300, 000, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

The number of stripper wells in 1944 was approximately 1,500 less than in 1942, and the production of these wells dropped 4 million barrels. It is also significant to note that there were only 87,000 productive acres of stripper wells in 1944 as compared to 100,000 in 1942. The number of abandonments in 1944 was 126

less than for 1942. It is estimated that some 600,000,000 barrels of oil might be recovered by secondary recovery methods with an adequate price, but a large proportion of this amount cannot be recovered without a substantial price increase.

STATE OF COLORADO

1. Number of stripper wells producing at close of 1944	101
2. Production in barrels of stripper wells in 1914	155, 420
3. Average price of stripper well production in 1944	$1. 11
4. Productive acres of stripper wells at close of 1944	3, 070
5. Productive acres of all wells at close of 1944	5, 000
6. Number of producing oil wells abandoned in 1944	None
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	None
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	100, 000
50 cents ... do	300, 000
75 cents ... do	500, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

There has been very little change in the stripper well situation in Colorado in the last 2 years. While very little has been done in the State on secondary methods of operation, it would appear that a price increase would be necessary to justify the attendant expense of installing and maintaining these projects.

STATE OF ILLINOIS

1. Number of stripper wells producing at close of 1944	15, 050
2. Production in barrels of stripper wells in 1944	7, 367, 000
3. Average price of stripper well production in 1944	[1]$1. 30 [2]$1. 46
4. Productive acres of stripper wells at close of 1944	106, 000
5. Productive acres of all wells at close of 1944	329, 050
6. Number of producing oil wells abandoned in 1944	668
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944 (disregarding economics)	668, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	10, 000, 000
50 cents ... do	25, 000,000
75 cents ... do	45, 000, 000

[1] Subsidy payments not included.
[2] Subsidy payments included.

The 1944 survey shows 865 more wells and roughly 2 million more barrels of production than the 1942 figures. The number of wells abandoned in 1944 was 668 which was more than double the number abandoned in 1942, and much higher than any other year since 1935. Secondary recovery methods are now being studied intensely after several projects have demonstrated their feasibility.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

STATE OF INDIANA

1. Number of stripper wells producing at close of 1944	1, 449
2. Production in barrels of stripper wells in 1944	[1]2, 039, 000
3. Average price of stripper-well production in 1944	[1]$1. 60
4. Productive acres of stripper wells at close of 1944	8, 065
5. Productive acres of all wells at close of 1944	13, 545
6. Number of producing oil wells abandoned in 1944	45

[1] Unofficial estimate.

7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	66,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	None
50 cents ... do	1,000,000
75 cents ... do	1,500,000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

The production from stripper wells in 1944 was very much higher than in 1942. Some of the acreage that had formerly been credited to stripper wells was eliminated on the present survey, as some large areas of stripper production, particularly in the old Trenton area of northeastern Indiana, had been abandoned in previous years. The actual abandonments in 1944 were 31 less than in 1942. Secondary recovery methods have been given very little consideration in the past, principally due to the price of crude. Several accidental water floods have indicated that substantial recoveries can be obtained by secondary methods.

STATE OF KANSAS

1. Number of stripper wells producing at close of 1944	16,760
2. Production in barrels of stripper wells in 1944	28,800,000
3. Average price of stripper-well production in 1944	$1.18
4. Productive acres of stripper wells at close of 1944	135,000
5. Productive acres of all wells at close of 1944	250,000
6. Number of producing oil wells abandoned in 1944	512
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	1,300,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	50,000,000
50 cents ... do	85,000,000
75 cents ... do	155,000,000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

The number of stripper wells in 1944 was 1,579 more than in 1942, and a corresponding increase in production of the stripper wells of 10 million barrels. A large part of this production increase is explained by the fact that the minimum allowable in Kansas was increased from 15 to 25 barrels per day. All pools with an average production of 25 barrels per day were dropped from proration, and wells in such pools were considered stripper wells in arriving at the 1944 total production figure. Secondary recovery is quite important in Kansas, particularly in the southeastern part of the State. Stripper production accounts for about 29 percent of the State's total production.

STATE OF KENTUCKY

1. Number of stripper wells producing at close of 1944	14,300
2. Production in barrels of stripper wells in 1944	4,604,079
3. Average price of stripper well production in 1944	$1.42
4. Productive acres of stripper wells at close of 1944	52,000
5. Productive acres of all wells at close of 1944	53,700
6. Number of producing oil wells abandoned in 1944	175
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	250,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	10,000,000
50 cents ... do	50,000,000
75 cents ... do	90,000,000

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In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

There was no marked change in the 1944 survey compared to the 1942 survey. The 1944 figures show 300 more stripper wells accounting for approximately 350,000 barrels more production than in 1942. There were 25 fewer wells abandoned than in 1942. Until recently, the stripper wells accounted for over 90 percent of the State's total production, however the recent discoveries of several flush pools dropped this percentage to below 50 percent. The State's production from all wells in 1944 was more than double the production in 1942. Secondary recovery operations, while not spectacular, have been rather consistent and operators have come to realize that old stripper wells are a valuable asset instead of merely junk.

STATE OF LOUISIANA

1. Number of stripper wells producing at close of 1944	2,677
2. Production in barrels of stripper wells in 1944	6,107,660
3. Average price of stripper well production in 1944	[1] $1.06
4. Productive acres of stripper wells at close of 1944	208,750
5. Productive acres of all wells at close of 1944	322,800
6. Number of producing oil wells abandoned in 1944	266
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	931,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	1,100,000
50 cents ... do	40,000,000
75 cents ... do	85,000,000

[1] Does not include subsidy premium payment.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Production from stripper wells accounted for only 4.7 percent of the State's total in 1944. Average daily production of stripper wells was 6.3 barrels per well. The 1944 survey shows that the number of stripper wells was 60 less, and the stripper production was off 582,000 barrels from the 1942 figures. The abandonments were 357 in 1942 and 266 in 1944, showing a decline of 91. Most of the stripper wells are located in the northern part of the State, particularly in the Shreveport district. Secondary recovery operations are now in progress in a number of stripper areas, and more are contemplated whenever feasible.

STATE OF MICHIGAN

1. Number of stripper wells producing at close of 1944	2,783
2. Production in barrels of stripper wells in 1944	6,230,043
3. Average price of stripper well production in 1944	[1] $1.42
4. Productive acres of stripper wells at close of 1944	31,205
5. Productive acres of all wells at close of 1944	49,125
6. Number of producing oil wells abandoned in 1944	199
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944 (unknown as a guess)	100,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	None
50 cents ... do	None
75 cents ... do	[2] 1,250,000

[1] Average price for all oil including subsidy—unable to get an average price for stripper wells alone.

[2] Secondary recovery has not as yet proved economical in Michigan. If price of crude was raised 75 cents per barrel additional wells would be drilled which would increase estimated recoverable reserves by figures shown.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Stripper wells in 1944 produced 500,000 barrels less than 100 fewer wells in 1942. Production from stripper wells accounted for approximately one-third of the State's total production in 1944. There were 56 more wells abandoned than in 1942. Average daily production of stripper wells was 6.1 barrels per well. Secondary recovery has not proved economical in Michigan and but little of the State's secondary oil could be produced without a substantial increase in the price of oil.

STATE OF MISSISSIPPI

1. Number of stripper wells producing at close of 1944	31
2. Production in barrels of stripper wells in 1944	167, 590
3. Average price of stripper well production in 1944	$0. 93
4. Productive acres of stripper wells at close of 1944	1, 120
5. Productive acres of all wells at close of 1944	18, 440
6. Number of producing oil wells abandoned in 1944	27
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	100, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	400, 000
50 cents ... do	500, 000
75 cents ... do	575, 000

Of the 475 producing oil wells in the State at the close of 1944, only 31 were classified as stripper wells, and production from these 31 strippers accounted for only 1 percent of the State's total production. Average daily production per stripper well as 14.8 barrels as against an average of 107.3 barrels for all oil wells. Secondary recovery operations in the State have not yet reached any importance, but it is thought that substantial secondary reserves could be established with an adequate price for oil.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

STATE OF MISSOURI

1. Number of stripper wells producing at close of 1944	123
2. Production in barrels of stripper wells in 1944	45, 000
3. Average price of stripper well production in 1944	[1] $1. 17
4. Productive acres of stripper wells at close of 1944	710
5. Productive acres of all wells at close of 1944	710
6. Number of producing oil wells abandoned in 1944	None
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	None
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	None
50 cents ... do	100, 000
75 cents ... do	200, 000

[1] Eighty-two cents plus subsidy of 35 cents.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

All of the wells in the State are classified as stripper wells. The average daily production in 1944 was approximately 1 barrel per well. Some of the wells are not pumped regularly, but none were reported as being permanently abandoned. Most of the production is in the northwestern part of the State. Up to the present time, secondary recovery projects have not proven very successful.

STATE OF MONTANA

1. Number of stripper wells producing at close of 1944	1,860
2. Production in barrels of stripper wells in 1944	2,731,098
3. Average price of stripper well production in 1944	[1] $1.19
4. Productive acres of stripper wells at close of 1944	23,918
5. Productive acres of all wells at close of 1944	40,729
6. Number of producing oil wells abandoned in 1944	21
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	23,780
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of—	
25 cents ... barrels	Trivial
50 cents ... do	1,757,475
75 cents ... do	3,514,950

[1] Subsidy payments not included.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

The number of stripper wells in the State comprises about 83 percent of all the oil wells. These stripper wells in 1944 produced roughly one-third of the State's total production. Average daily production of strippers was 4 barrels per well. As compared to the 1942 survey, the 1944 figures show that there were 381 more stripper wells and that roughly 50 percent more production was obtained from the wells in the stripper category. Only 21 wells were abandoned in 1944. Wells making 15 barrels per day or less are classified as strippers by the Oil Conservation Board. Most of the increase in the number of stripper wells took place in the Cut Bank field. The marginal nature of most of the stripper well operations is not conducive to the application of secondary methods. Very little of the State's secondary oil could be recovered without a price increase of at least 50 percent per barrel.

STATE OF NEBRASKA

1. Number of stripper wells producing at close of 1944	72
2. Production in barrels of stripper wells in 1944	440,000
3. Average price of stripper well production in 1944	$1.10
4. Productive acres of stripper wells at close of 1944	1,380
5. Productive acres of all wells at close of 1944	1,380
6. Number of producing oil wells abandoned in 1944	18
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	175,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	None
50 cents ... do	None
75 cents ... do	None

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

All of the wells in the State are now classified as stripper wells whose average daily production is 16.7 barrels per well. Since the 1942 survey, there have been some rather significant changes. The number of stripper wells increased from 9 to 72; and their production increased from 45,000 barrels to 440,000 barrels. The 18 abandonments in 1944 were three times the number of abandonments in 1942. The Falls City and Barada Pools were principally responsible for the changes herein mentioned. Possibilities of the application of secondary methods are not considered good, because of the strong water drive already present in the pools in the southeastern part of the State.

STATE OF NEW MEXICO

1. Number of stripper wells producing at close of 1944	1,102
2. Production in barrels of stripper wells in 1944	2,464,385
3. Average price of stripper well production in 1944	$1.04
4. Productive acres of stripper wells at close of 1944	42,040
5. Productive acres of all wells at close of 1944	162,960
6. Number of producing oil wells abandoned in 1944	1
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	1,460
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	5,000,000
50 cents ... do	10,000,000
75 cents ... do	20,000,000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Approximately 28 percent of all oil wells in the State are classified as strippers, and their production accounts for 6.2 percent of the State's total. The average daily production of stripper wells is 6.1 barrels per well. The 1944 figures for the number of stripper wells and their annual production are double those of the 1942 figures. It is significant to note that the records indicate only one well was abandoned in 1944. At the present price of oil, the application of secondary methods is not expected to become very important, although there are appreciable reserves for the future.

STATE OF NEW YORK

1. Number of stripper wells producing at close of 1944	20,900
2. Production in barrels of stripper wells in 1944	4,772,514
3. Average price of stripper well production in 1944	$3.313
4. Productive acres of stripper wells at close of 1944	71,000
5. Productive acres of all wells at close of 1944	71,000
6. Number of producing oil wells abandoned in 1944	428
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	560,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	1,000,000
50 cents ... do	2,000,000
75 cents ... do	[1] 7,000,000

[1] With an increase of $1 in the price, 10,000,000 barrels would be recovered.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

All of the 20,900 producing oil wells in the State are considered to be in the stripper class. These wells produce an average of 0.6 barrel per well per day. Principal production is from the Allegany and Bradford fields, where water-flooding operations have proven very successful. In fact, probably close to 90 percent of the State's production is due to the application of secondary methods. Of the approximately 100 million barrels of oil that can be recovered by secondary methods, it is believed that about two-thirds to three-fourths of these reserves can be recovered at the present price of oil. In this connection, it is pointed out that the posted price of Pennsylvania Grade Crude is $3 or better per barrel, which price does not include the 75¢ per barrel Federal subsidy. There were 303 more abandonments in 1944 than in 1942. Most of which were wells in watered out areas where water floods are being applied.

STATE OF OHIO

1. Number of stripper wells producing at close of 1944	22,483
2. Production in barrels of stripper wells in 1944	2,103,593
3. Average price of stripper well production in 1944	$1.96
4. Productive acres of stripper wells at close of 1944	823,372
5. Productive acres of all wells at close of 1944	843,372
6. Number of producing oil wells abandoned in 1944	594
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	850,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	2,000,000
50 cents ... do	6,000,000
75 cents ... do	15,000,000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Approximately 98 percent of the wells in Ohio are stripper wells. The present survey shows there were 1,300 fewer stripper wells than in 1942. Stripper production also showed a decline of some 300,000 barrels. However, there were only 594 abandonments in 1944 as compared to 894 in 1942. The price of $1.96 per barrel is the weighted average of the various grades of crude and is exclusive of the stripper well compensatory payments. Most of the reserves which may be recovered by secondary methods is dependent upon a substantial price increase.

STATE OF OKLAHOMA

1. Number of stripper wells producing at close of 1944	49,398
2. Production in barrels of stripper wells in 1944	58,200,000
3. Average price of stripper well production in 1944	$1.16
4. Productive acres of stripper wells at close of 1944	690,000
5. Productive acres of all wells at close of 1944	831,000
6. Number of producing oil wells abandoned in 1944	1,200
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	3,000,000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents ... barrels	[1] 60,000,000
50 cents ... do	100,000,000
75 cents ... do	185,000,000

[1] Unofficial estimate.

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Stripper wells accounted for almost half of the State's production in 1944. Of the 52,374 producing oil wells, 49,398 are classified as strippers. The average stripper well production is 3.2 barrels per well per day. A comparison with the 1942 survey shows the 1944 number of stripper wells to be about 600 more, and the production from stripper wells about 8 million barrels more. There was very little change in the number of abandonments, being 74 less in 1944 than in 1942. The reserves that can be recovered by secondary methods are over 300 million barrels, and a substantial price increase is necessary to recover a large percentage of these reserves.

STATE OF PENNSYLVANIA

1. Number of stripper wells producing at close of 1944	83,000
2. Production in barrels of stripper wells in 1944	14,118,000
3. Average price of stripper well production in 1944	$3.237
4. Productive acres of stripper wells at close of 1944	505,000
5. Productive acres of all wells at close of 1944	505,000
6. Number of producing oil wells abandoned in 1944	2,450
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	1,000,000

8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents .... barrels..	50, 000, 000
50 cents .... do....	100, 000, 000
75 cents .... do....	150, 000, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

All of the wells in the State are considered as strippers. The 83,000 wells producing at the close of 1944 are 1,000 greater than the 1942 figure. However, the 1944 production was 4 million barrels less than in 1942. The price indicated in the above table does not include the Federal compensatory payment of 75 cents per barrel for Pennsylvania grade crude. Although the average daily production per well is only 0.5 barrel, the great number of wells producing a premium crude for the manufacture of high grade lubricants make this production very important because it is in an area of high consumption. Most of this oil is being produced by secondary methods at the present time. The answer to question 8 in the above table is based on the assumption that 200 barrels of additional physically recoverable oil can be obtained from each of the 505,000 producing acres or a total of about 100 million barrels of oil. If a like amount can be obtained from marginal areas which are not under production at the present time, there are 200 million additional barrels of oil available if economics are disregarding. It is further assumed that every 25-cent increment in price up to a total of 75 cents will increase the reserves by about 50 million barrels.

STATE OF TENNESSEE

1. Number of stripper wells producing at close of 1944	15
2. Production in barrels of stripper wells in 1944	9, 500
3. Average price of stripper well production in 1944	$1. 47
4. Productive acres of stripper wells at close of 1944	105
5. Productive acres of all wells at close of 1944	105
6. Number of producing oil wells abandoned in 1944	14
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	10, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents .... barrels..	None
50 cents .... do....	75, 000
75 cents .... do....	100, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

All of the wells in the State are strippers. The number of wells producing in 1944 is 40 percent less than in 1942, and their production is 14 percent less than in 1942. Most of the production is from pools located in Scott and Morgan Counties. Secondary recovery is of no importance yet, and a substantial price increase will be necessary to recover the secondary reserves.

STATE OF TEXAS

1. Number of stripper wells producing at close of 1944	32, 170
2. Production in barrels of stripper wells in 1944	35, 226, 150
3. Average price of stripper well production in 1944	$1. 18
4. Productive acres of stripper wells at close of 1944	289, 530
5. Productive acres of all wells at close of 1944	2, 750, 000
6. Number of producing oil wells abandoned in 1944	2, 376
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	23, 000, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents .... barrels..	125, 000, 000
50 cents .... do....	250, 000, 000
75 cents .... do....	375, 000, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Approximately one-third of the wells in the State are strippers, but their production amounted to only 4.7 percent of the total production for 1944. Average daily production per well of the strippers amounted to 3 barrels. In 1944 there were 1,400 more strippers whose production was 1½ million barrels more than in 1942. The abandonments in 1944 were 745 less than in 1944. Reserves lost by abandonments were 7,000,000 barrels less in 1944 than in 1942.

STATE OF WEST VIRGINIA

1. Number of stripper wells producing at close of 1944	17, 300
2. Production in barrels of stripper wells in 1944	3, 115, 783
3. Average price of stripper well production in 1944	$2. 59
4. Productive acres of stripper wells at close of 1944	138, 400
5. Productive acres of all wells at close of 1944	138, 400
6. Number of producing oil wells abandoned in 1944	145
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	1, 160, 000
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods (100,000,000 barrels recoverable) with price increases per barrel of:	
25 cents — barrels	20, 000, 000
50 cents — do	50, 000, 000
75 cents — do	100, 000, 000 (in addition to subsidy)

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

All of the 17,300 wells in the State are classified as strippers, whose daily average production per well is 0.5 barrel. Decline in production is noted of some 500,000 barrels in 1944 as compared to the 1942 production figures. It is significant to note that the abandonments were only 145 in 1944 as compared to 435 in 1942. And reserves lost by abandonments were 6,700,000 less in 1944 than in 1942. The compensatory payments of 75¢ per barrel for Pennsylvania Grade Crude played a part in keeping the very small wells producing beyond the normal time of abandonment.

STATE OF WYOMING

1. Number of stripper wells producing at close of 1944	1, 878
2. Production in barrels of stripper wells in 1944	2, 856, 175
3. Average price of stripper-well production in 1944	$0. 95
4. Productive acres of stripper wells at close of 1944	27, 475
5. Productive acres of all wells at close of 1944	76, 157
6. Number of producing oil wells abandoned in 1944	9
7. Total number of barrels of recoverable oil left in producing horizons underlying oil wells abandoned in 1944	12, 500
8. Estimated additional reserves which may be recovered from stripper wells by secondary recovery methods with price increases per barrel of:	
25 cents — barrels	2, 431,550
50 cents — do	7, 996, 100
75 cents — do	17, 176, 000

In this survey a stripper well is defined as a well whose production expenses approximate income. Under this definition a deep well with substantial production may be classified as a stripper well.

Half of the wells in the State or stripper wells, but their 1944 production amounted to only 8.7 percent of the State's total. Average daily production of the wells in the stripper category amounted to 4.2 barrels per day. The production from the stripper wells in 1944 amounted to 850,000 barrels more than in 1942. The price of oil shown ($0.95) is the average of the light and heavy oils. Weighted average price of the heavy oil is $0.778 and of the light oil is $1.154.

EXHIBIT B

Whereas on January 10, 1945, at Fort Worth, Tex., the executive committee of the National Stripper Well Association did unanimously adopt the following resolution:

"In the interest of conservation of an irreplaceable natural resource essential to the economic and general welfare of the Nation, efforts be made to prevail on Congress to enact a law which would grant a fixed differential in the price per barrel for stripper-well production over and above the general market price, and that such additional payments be made out of the general fund."

And whereas, the postwar changes in the economic situation and price levels of the Nation make it increasingly imperative that such provision be made to protect stripper well reserves.

Now therefore, the National Stripper Well Association in annual meeting assembled at Tulsa, Okla., October 15, 1945, hereby ratifies, affirms, and readopts said resolution and instructs the officers of the association to proceed in the furtherance of the objectives thereof.

EXHIBIT C. RESOLUTION PASSED BY THE PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION ON SEPTEMBER 17, 1945

Be it resolved, That the Pennsylvania Grade Crude Oil Association extend its active support to the retention of the so-called subsidy payments for stripper well production and to the passage by the Congress of an act making the same permanent and that, for these purposes this association join with the National Stripper Well Association and other associations favorable thereto.

EXHIBIT D. RESOLUTION

Whereas Oklahoma, and Creek County particularly, has for 40 years been one of the major oil-producing areas of the United States; and

Whereas oil has been the principal source of taxable revenue in Oklahoma for many years, from which funds have been derived with which to build roads and maintain schools; and

Whereas thousands of men are employed throughout the United States in connection with lease work and the actual producing of oil from small (stripper) wells which produce a large percent of all oil produced in the Nation and which, if abandoned, would leave in the ground never to be recovered approximately 5 billion barrels of oil which represents about 25 percent of our known reserves; and

Whereas during the recent war a conservation payment (sometimes called subsidy) was granted by the Government to the producers of wells making less than nine barrels per day in order to prevent the abandonment of these small wells on account of them being operated at a loss because of increased costs in operation, which payment today represents in most cases the difference between a loss and a small profit to the operator, and

Whereas the conservation payment, unless extended by act of Congress, expires June 1946, and, if permitted to expire, will mean not only ruin to many small operators but a loss to the royalty owners and great damage to the State from loss of taxable income as well as unnecessarily depleting our oil reserves at a time when we should be doing everything possible to not only preserve and utilize our known reserves but to discover new ones; and

Whereas as an inducement to encourage secondary recovery methods for the purpose of recovering every barrel possible from any well before it is abandoned, and for the purpose of doing justice to an industry which so loyally supported our Government in its conservation program during the war, and through whose efforts enough oil was produced and sold below the cost of replacement to defeat our enemies month or even years sooner than otherwise would have been possible, and in order to prevent wholesale abandonment of wells and cause thousands of workers and their families needless hardships on account of being thrown out of work, and as a premature abandonment of these wells cause a great loss to this State through the loss of taxable resource; and

Whereas all these disastrous consequences can be avoided by an act of Congress making the conservation payment permanent: Now, therefore, be it

Resolved by the Bristow Chamber of Commerce, in meeting assembled, this, the 7th day of February 1946, That each Senator and Representative in Washington

from Oklahoma be urged to, as soon as possible, support and work for the passage of such legislation as will make the conservation oil payment permanent, with the proviso that any such payment shall be computed on a percent of the posted price for crude oil in the area where the wells are located.

BRISTOW CHAMBER OF COMMERCE.

EXHIBIT E. REPORT OF THE SECONDARY RECOVERY COMMITTEE TO THE SIXTEENTH ANNUAL MEETING OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, TULSA, OKLA., OCTOBER 16, 1945

I. A very substantial portion of the crude oil reserves of this Nation underlie what are commonly known as stripper wells. These reserves are variously estimated at from 3½ billion to 4½ billion barrels, of which approximately 30 percent is recoverable under present primary producing methods now in use on the wells. The other 70 percent can only be produced through the installation of secondary-recovery methods. It is the judgment of this committee that not all of the primary oil and little of the secondary oil requiring additional expenditures can be recovered under the present posted price for crude oil. In order to recover these reserves underlying stripper properties and make them available to the public and to our Nation for its safety and welfare, it is essential that the operators receive sufficient remuneration to justify their continued operation.

Stripper-well production provides an assured but slowly declining supply and was an essential part of the Nation's demand in World War II. The question has arisen as to how sufficient income from these walls can be maintained in the future to continue their operation. The present temporary subsidy may soon be removed and it is doubtful if posted crude prices at that time will be adequate to compensate for its elimination. One proposed solution is the establishment of a permanent price differential in favor of stripper wells on a conservation basis, but there has been no satisfactory plan worked out as to how it is to be obtained, nor does it have the unanimous support of this committee or the industry as a whole. However, the problem is of such importance that it demands some solution and therefore we urge the officers of this association to study the problem carefully and suggest that they immediately contact the governmental agency which they deem proper with the proposition that this agency make a prompt survey of the situation including:

1. Location and amount of reserves involved.
2. Their value to our national economy and national defense.
3. The problems involved in their recovery.

After making such survey we further suggest that this agency shall make definite recommendations toward the solution of the problem and in making such surveys and findings, this governmental agency shall receive full cooperation of all members of the IPAA. It should be noted that time is an important factor in this problem. Unless there is a sufficient increase in the posted price for crude oil when the present subsidy is removed, wholesale abandonment will result, not only in the stripper wells but also in the many secondary-recovery operations which will be beyond their economic limit after the removal of the subsidy. These abandonments will result in the permanent loss of many millions of barrels of oil reserve. At the time the present stripper well compensatory adjustment was adopted the OPA agreed that it should be continued for the duration of the emergency and 6 months thereafter. We urge that the present adjustment be continued to protect these reserves during the study of a permanent solution of the problem.

II. The suggestion has been made that this Nation should import large quantities of foreign oil and store it in depleted oil sands for future use. Anyone with experience in producing oil, either by primary or secondary-recovery methods, realizes that this suggestion warrants no serious consideration because of the prohibitive cost involved and the questionable amount of the stored oil which could be recovered when needed. We present it at this time only as a warning of what the oil industry may expect from those who would supply the petroleum needs of this country from foreign rather than domestic sources. The danger in such proposals stems from the appeal which they have for the consuming public unless their fallacy is exposed.

III. A considerable amount of valuable work has been done by the Bureau of Mines in making studies of secondary-recovery methods and results, which have been published in reports available to the industry. The committee desires

to convey its appreciation and gratification for the work so undertaken. It is recommended that this work be continued and expanded to serve the needs of the industry in research and promotion of secondary-recovery methods and we urge an increased appropriation by Congress for the Bureau of Mines in order that this important work may be carried on more extensively. This committee also appreciate and commends the United States Geological Survey on their work done in studying the possibilities of various pools for secondary-recovery methods.

IV. Due to the possibility that certain situations may occur from time to time to cause the cessation or curtailment of production in the oil industry, the committee desires to reemphasize that particular efforts should be directed toward the uninterrupted production of oil from stripper wells and secondary-recovery operations because of the permanent damage to such production resulting from either curtailment or complete shut-down.

B. The work of secondary recovery has developed to the point where many of the methods used are being recorded in printed form. Special bulletins are being issued and reports on progress in this line of endeavor are being published. We recommend therefore that means be provided for this association to accumulate and keep on file, in the headquarters office, a library of all such available material for the use of the industry, and that an index of the subject matter contained in this library be furnished periodically to the members of the association by publication in the Independent Monthly.

Mr. Fraser. Was any action taken by any committee of the Independent Petroleum Association after the passage of the resolution in October? You say the officers of the association were instructed to study the problem carefully and immediately contact the governmental agency which they deemed proper.

Mr. McClure. There have been several studies, and they have cooperated with the Interstate Compact in assembling this data. They are in the process of doing that now.

Mr. Fraser. Has any governmental agency been approached?

Mr. McClure. Yes, sir. I would say on that point, not directly to the committee, but representatives of the stripper-well operators have invited the cooperation of the Department of the Interior to study this matter, who have areas where they are interested in the subject. They are trying to formulate data and arrive at some conclusion.

The Chairman. Of course, when all is said and done, when you come to a committee of Congress you are coming to the source of statutory authority. You are here now at the bar where a decision can be rendered.

Mr. McClure. That is right.

The Chairman. And I take it from what you have said in response to questions that you are personally not quite ready to assume the responsibility of recommending a permanent postwar subsidy program to promote stripper-well production.

Mr. McClure. On that point, Mr. Chairman, we are attempting to study at this time and assimilate data, and will submit that to whomever you direct, or to the Department of the Interior, and let them help to formulate that conclusion. Personally, I do not have the answer.

The Chairman. When VE-day came, the governmental agency which had been set up for the purpose of coordinating our activities for the war began immediately to suspend controls. I think I have already remarked at this hearing that the War Production Board materially reduced the number of directives and controls that were in effect, after VE-day. In other words, before victory over Japan,

governmental direction of our economy was substantially decreased. After VJ-day the War Production Board suspended its operations.

The control of the supply of materials, for example, was suspended almost completely, except in a few cases where the supply was so deficient that it was felt in the interests of the civilian economy it was necessary, as, for example, in the case of lumber, because there was not enough lumber to meet the demand. The Civilian Production Administration attempted to continue to control the supply by the issuance of directives authorized by Congress, so that there would be no hoarding, and everybody would get a fair chance to use what supply was available.

At the same time, the President voiced a desire to suspend subsidies, and some subsidies were cut down. Recently, because of an apparent inability to stimulate the production of building materials, a recommendation was made to adopt a subsidy program which is precisely what the stripper-well program has been, in order to bring into the market building materials to meet the housing shortage. The House of Representatives has declined to adopt that. In other words, we have in this country a very substantial feeling that the Government should withdraw from the subsidy program just as rapidly as possible. And those who urge subsidies do it only upon the ground that extraordinary conditions exist which require them.

The question which must be decided with respect to petroleum is whether or not the conditions are so extraordinary, or are likely to continue to be so extraordinary, that a permanent Government subsidy program should be adopted. If it is, we must all face the fact that to that degree it is an abandonment of what we call the free-market economy. The usual theory of the free economy is that the law of supply and demand will fix these prices. We interfered with that during the war because it appeared to be necessary to do that in order to fight the war successfully. Now, are we going to continue that theory in peacetime? That is the proposal that you are putting up to us.

Mr. McClure. Yes, sir. On that point, I have not offered any proposal. I did attempt to recite what your predicament is, has been, and will be, unless the free law of economy takes care of it. And if it does, that is fine. A few have hopes that it will. I think it is the duty of the Department of the Interior and this committee to make a determination, not mine.

The Chairman. Of course it is the duty of the Congress to make the determination.

Mr. McClure. I mean the Congress.

The Chairman. And what the Congress does, it does for the people. We are only the agency of the people. You gentlemen are to be counted among them; so you cannot avoid the responsibility of making the suggestion or of not making it. It ought to be clear in the mind of everybody who urges this solution that it is an invitation to the Government to intervene in the industry. If the Government pays subsidies in any industry, to that extent it is an abandonment of the free economy.

Mr. Franklin. May I say a word right here?

The Chairman. Mr. Franklin.

Mr. FRANKLIN. I think you have stated this matter very clearly; and I think without a doubt that the vast majority of those engaged in the oil industry, independents and majors alike, are unalterably opposed to their Government's continuing to pay subsidies to anybody. What Mr. McClure has stated several times in his testimony is that if these controls were eliminated and all economic law were returned, then the oil industry would get along now after the close of the war as it did before. We had no subsidies before this war. We had approximately the same number of stripper wells before the war as we have now. In due course many of them are abandoned, and it is regrettable.

The CHAIRMAN. Now, Mr. Franklin, let us get the record straight. I am reading now from Mr. McClure's statement, his recommendation No. 3. [Reading:]

The National Stripper Well Association, of which I am president, favors the enactment by Congress of a law which would grant a fixed differential in the price per barrel for stripper-well production over and above the general market price and that such additional payments should be made out of the general fund.

Now, if that is not an explicit, straightforward recommendation for a Government subsidy, I do not understand the English language.

Mr. FRANKLIN. I agree that that is. But Mr. McClure, several times during his examination, stated that if the price of oil generally were allowed to seek its level, its true economic value, perhaps a subsidy would not be necessary.

We have been in a strait-jacket with oil frozen in October 1941 at the depression level. At that time, oil was in the process of being advanced. An attempt was made to advance the price of oil by a major purchaser on July 1, 1941; and at the request of the Government that was postponed until they could look into it, the then Price Administrator having made the request.

Again the attempt was made to raise the price of crude 25 cents a barrel in September of 1941; again the request was made to postpone that raise. And while under this condition of postponement, the price was then frozen at that level, and has remained frozen since that time.

Now, had the free law of economic forces been allowed to govern, the price of oil before the war ever started would have reached a value whereby these stripper wells could have been saved, and whereby those who owned them would have been able to continue in business without any subsidy whatever. That is the point I want to make.

Here is an industry now which since the war is producing a greater amount of oil than the consumptive demand. Since January 1 we have added to the storage about 13,000,000 barrels of oil which certainly is over and in excess of consumptive demand. Why is there any excuse whatever for continuing price controls in the oil industry when there is an excess of production over consumptive demand and over the needs of the people or the needs of the Government, and of everybody else? The time has long passed when there is any need for controls. If these price controls are eliminated, the price of oil would seek its true value, and these conditions that are being complained about would undoubtedly be taken care of in the course of a few months. That is the point I want to bring to your attention.

Mr. JACOBSEN. Mr. Chairman.

The CHAIRMAN. Mr. Jacobsen.

Mr. JACOBSEN. I want to say that I think you stated the position perfectly and very clearly in your last question to Mr. McClure. There is no doubt whatever that the continued payment of a subsidy in peacetime is the very thing that you said it was, a straight and direct invitation for the Government to intervene in business.

Now, Mr. McClure, in his paper, had three paragraphs and stated quite correctly that there are different views in the industry. The third one was the one you quoted, in which the Stripper Well Association has come out definitely for a subsidy.

The first paragraph, I think it was, stated that there are people in the oil industry who do not favor subsidies, which is also true. I am certainly one of those who do not favor it.

I would like to raise one point in connection with this. If you pay a subsidy to stripper wells, then no matter where you put a definition or the dividing line between stripper and nonstripper, you get to a point where you put a premium on inefficiency and where you put a premium on low production instead of high production. To take an example, if for a well at a given depth the difference between a subsidy payment and no-subsidy payment is, say, 15 barrels a day in production, if you produce 14 barrels a day, you get the price plus, say, 50 cents. If you produce 16 barrels a day, you only get the price and you lose the 50 cents per barrel.

In the production of wells you have frequently to incur expenses in reworking a well to bring the production up. If you pay a premium for the well which produces less than my hypothetical figure of 15 barrels, you put a premium on inefficient methods, for the simple reason that there is only a certain quantity of oil left underground that can be drained out of a certain well. If an oil producer has a well that produces 16 barrels a day, and by spending money he could raise that production to 25 or 30 barrels a day, he would be a fool to do so if he can get 50 cents more by letting it go down to 13 or 14 barrels a day. And the premium which is thereby placed on inefficiency and on failure to operate properly is my greatest objection to the payment of subsidies.

The CHAIRMAN. Of course, the whole argument for a subsidy in time of war was that it would enable the inefficient producer to come into the market with a commodity which the public needed for the purpose of the war.

Mr. JACOBSEN. Precisely.

The CHAIRMAN. So I come back to the question which I addressed to Mr. McClure early in his testimony: What is the social justification for a subsidy payment for stripper-well production in time of peace? The only suggestion which has been made to date is that there is so much oil to be left in the ground that it is in the public interest to pay a subsidy to get it out, because otherwise it would be lost.

Mr. JACOBSEN. Yes.

The CHAIRMAN. Now, I have no doubt that the devil's advocate here on my right might be tempted to say in this connection that if a subsidy is not paid, then cheap foreign oil could come in to supply the public demand. I don't know whether Mr. Fraser has registered that suggestion or not. But the argument would be raised immediately if such a program were recommended to Congress.

Mr. JACOBSEN. Personally, my greatest objection to it is the premium it places on inefficiency. Your analysis of it, I think, is entirely correct.

The CHAIRMAN. Thank you, Mr. Jacobsen.

Mr. Dow. Mr. Chairman, you used the words "inefficient production," and I think you meant high-cost production.

The CHAIRMAN. I will accept that amendment, Mr. Dow.

Mr. JACOBSEN. That could be due either to inefficiency or to natural high costs that cannot be overcome.

The CHAIRMAN. That is right. There are cases, for example, in the mining industry where we have low-grade ores.

Mr. Dow. That is right.

The CHAIRMAN. These, by the most efficient methods, cannot be economically produced at a normal price level.

Mr. Dow. That is right.

The CHAIRMAN. So that is high cost. I accept that amendment.

Mr. CARPER. Mr. Chairman, may I make a statement?

The CHAIRMAN. Certainly. Will you give your name to the reporter?

Mr. CARPER. Mr. Emory Carper. I should like to cite a plant in New Mexico, which we call a repressuring plant. This can be verified. I came to Washington with Mr. John Kelly, a little more than a year ago. We asked for a subsidy on a hardship clause because we did not produce enough oil to justify a subsidy otherwise. We were producing more than 100 barrels a day and were working about 80 wells.

We have $600,000 invested in a plant in New Mexico for making gasoline and butane, returning the residue gas to key wells over the field. We were forced to come here and ask for a subsidy because we could not meet the operating costs of the plant—the production could not meet it, and the only way we could maintain the plant under the present price was by a subsidy. We were finally granted a 17-cent subsidy; so the plant is still running.

In the meantime, if we do not get a very substantial increase in the price of oil or a continued subsidy on it, the plant will have to be salvaged, because we owe $150,000, and we cannot get enough production from the plant to meet it; that is, the assessment on the production will not meet it. The only way that we could continue to operate that plant is through a much better price on oil or with a subsidy.

I used to be opposed to subsidies. I have changed my mind somewhat in regard to that for several reasons. A barrel of oil left in the ground is lost forever, and the tax is lost; and the tax will pay the subsidy. I think a permanent differential should be worked out for a tax on the production of the oil to maintain a permanent differential on stripper production. It will be absolutely impossible to maintain that plant without more money. That is all I want to say.

The CHAIRMAN. Thank you very much, Mr. Carper.

Mr. MCCLURE. Mr. Chairman, may I have a word?

The CHAIRMAN. Mr. McClure.

Mr. MCCLURE. In relation to what has been said, and correlating with your recitations and indications of thought, there are many in our group who concur in the proposition that if the price of oil were adequate—and when we say "adequate," we do not mean it is one cent a gallon below the cost of producing it, either——

The CHAIRMAN. You do not mean this 10 cents a barrel which Mr. Hardey referred to yesterday?

Mr. MCCLURE. No; we do not mean that. We say if it costs 4 cents a gallon to produce that, it should sell for 5 cents. The producer is entitled to a penny on a gallon as profit to explore for new oil and to pay the taxes and lay away $100 for his old age. That is the average cost, 4 cents a gallon, to find that commodity, develop it, and produce it.

Many of us cannot meet the average. Some beat the average. Many of us are ruled off the track because we could not meet the average. We are willing to take that chance. But the price of that commodity should be the cost of production on the average, finding, developing, and producing, plus a reasonable profit—not any magnified figures. When we say "adequate," we are talking in terms of 5 cents a gallon as a price.

The small operators, in my opinion, as long as we have a sustained adequate price—not a profitable price one week and one below production the next week—are willing to go along on that basis, but they have taken such a beating that as I understand the tenor of their attitude, they are willing to resort to any method rather than to continue to be asked to produce without patriotic reasons a commodity that costs 4 cents and sell it for about 3 cents.

The CHAIRMAN. Let me interrupt you there for a minute. The representative of OPA, who yesterday told me about the increased price, is on the telephone wanting to talk to me now. I do not know what he is going to tell me.

Mr. JACOBSEN. Perhaps he is giving us the 15 cents, Mr. Chairman.

Mr. DOW. Maybe he is taking the 10 cents back.

Mr. MCCLURE. I might say, in conclusion, that we feel that the Department of the Interior, with its studies of public lands, is best qualified to help you answer that question of whether or not it is in the interest of social justice and welfare. And as a concluding recommendation, we would like to ask you for their views on that subject, and for you to ask them for their views on that subject.

The CHAIRMAN. Mr. Swanson, you will take due notice of the request of the witness, I am sure.

Mr. FELL. Mr. Chairman, I would like to say just one thing that might be helpful to you. We have heard a lot, the oil producers have, about this holding the line. Well, we just do not feel that on this racetrack we have got up to the line. Now, if we can just get up to the line and maybe get up even just for the start of the race, maybe the stripper well operator could stay in the race, but he cannot stay in the race when he is kept yards and yards back of the starting line each time.

The CHAIRMAN. The problem of OPA prices has been under discussion in the House today. Of course, the bill to extend the OPA is still under consideration by the Congress. We are interested here in the long-distance view, as you know.

Who is your next witness, Mr. Fell?

Mr. FELL. Mr. Chairman, Colonel Byrd has to meet with the OPA tomorrow. He says he has just three short pages that he would like to read, and we are glad to give way to him for five minutes or so.

The CHAIRMAN. Very well.

Mr. MCCLURE. Thank you, gentlemen.

The CHAIRMAN. We were glad to hear from you, Mr. McClure.
Very well, Mr. Byrd, you may proceed.

STATEMENT OF D. HAROLD BYRD, PRESIDENT OF THE INDEPENDENT PETROLEUM ASSOCIATION OF TEXAS, DALLAS, TEX.

Mr. BYRD. I am D. Harold Byrd, Dallas, Tex., president of the Independent Petroleum Association of Texas.

I represent a group of independent dependent operators. When I say dependent, I mean it literally. We are dependent on the major oil companies largely for our subsistence. They own or control most of the United States production, nearly all of imports. They own most of our pipe lines and transportation facilities, including oil tankers. They own 88 percent of our oil-refining capacities, and over 80 percent of our crude oil stocks and manufactured products, including gasoline, kerosene and heating oils.

In other words, they control the "inlets and outlets" and thereby hangs the price which we independents live or die under, with this one added obstacle, the OPA.

A fundamental principle of justice in America is that each man stands equally before the law. Denial of equality is injustice.

The petroleum industry endures such an injustice. According to the Bureau of Labor Statistics, United States Department of Labor, the price index for petroleum and petroleum products was 59.8 percent of parity in December 1941, at the outbreak of war. By contrast the wholesale price index for all commodities was 93.6 percent of parity.

The petroleum price index rose to 61.6 in December 1945, the latest statistical date for which figures are available. By comparison, the index for all commodities climbed to 107.1 percent.

Time after time during the war the petroleum producers pled with the agencies of their Government which they thought had the authority to correct this injustice, the Office of Price Administration and the Office of Economic Stabilization.

The only answer to this plea, other than brush-offs in varying degrees of politeness, was the institution of the stripper well subsidy plan. That the premium payments under this plan failed to correct the injustice to the oil producers is shown by the fact that the petroleum index rose only 2.8 points between December 1941 and September 1945, that is from 59.8 percent of parity to 62.6 percent.

During this same period the index for all commodities rose 11.6 points or from 93.6 percent of parity to 105.2.

During the war the crude oil producers responded to every call for oil regardless of the cost of producing it and regardless of the price allowed for it because it was our duty and responsibility.

During the war to right injustice throughout the world, Texas, the largest oil-producing State, produced more than 2,300,000,000 barrels of petroleum liquids. We did it at prices which made us the victims of injustice at the hands of our own Government.

I charge that the refusal of the Government to permit the price of oil to come up to the same index level with other commodities was an injustice. This injustice will not be righted until the price for petroleum is brought up to parity.

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If all commodities can rise to 107.1 percent of parity under Government controls and not create a state of inflation, then by what logic can it be proved that permitting petroleum to come up to the same level will plunge this country into inflation?

The independent crude oil producers have endured the price injustice so long that they have about reached the determination to keep their oil underground until the price of oil is brought up to the same index level with other commodities.

The CHAIRMAN. For the record, Colonel Byrd, may I ask you on what basis the parity price for crude oil is determined?

Mr. BYRD. 1926.

Mr. FRANKLIN. All prices on that commodity index are the 1926 prices.

The CHAIRMAN. They are on the basis of the prices in 1926?

Mr. FRANKLIN. That is the same basis as all other commodities.

Mr. FELL. All their prices are based on 1926.

The CHAIRMAN. The agricultural parity is on the base period of 1910 to 1914.

Mr. FELL. That is right; but the others are on 1926.

The CHAIRMAN. The year 1926 alone?

Mr. FELL. Yes, sir.

Senator MOORE. What was the price of oil then?

Mr. FELL. The price for oil in 1926 was about $1.85.

The CHAIRMAN. You may proceed.

Mr. BYRD. The OPA price increase of 10 cents per barrel—not gallon—announced yesterday is a step in the right direction and while this boost helps, it is not enough. On the basis of parity with other commodities the crude advance should have been between 50 and 60 cents per barrel, maybe they intend to advance it gradually, but after 5 long years of watchful waiting we smaller producers who do not have integrated companies to make up our losses will feel that the delay has already been gradual enough.

It is most heartening to most of us independents to note that your committee has recommended the sale or use of the Big and Little Inch pipe lines from Texas to the east coast. If we independents get these pipe lines, it is my firm conviction that a multitude of errors can be corrected.

The CHAIRMAN. May I interrupt you there to say that the committee has made no recommendations.

Mr. BYRD. Didn't you recommend to Congress that they either sell or use those lines instead of letting them lay idle?

The CHAIRMAN. No, the committee has made no recommendations as yet. All the committee did—and this was the Surplus Property Subcommittee of the Committee on Military Affairs—was to recommend an extension of time within which the Surplus Property Administration should not be permitted to act upon its recommendation. That resolution the Senate approved. The House has not acted upon it.

But the Surplus Property Subcommittee, has taken no action; neither has the Petroleum Resources Committee taken any action upon that issue.

Mr. BYRD. That recommendation, as made to Congress, having been on the desk for 30 days, doesn't that represent an approval?

The CHAIRMAN. When the Surplus Property Administrator files with the Congress an outline of his plan to dispose of certain types of surplus property costing above a given sum, he may not dispose of that property or act under that recommendation until the time specified in the law has expired—that is 30 days—or such longer period as Congress may legislate.

We did grant an extension with respect to one subject. With respect to the pipe lines, the Senate voted for an additional extension, but it has not been granted by the House as yet, and the Surplus Property Administrator has not taken any action.

Later on, it will be the purpose of the committee to hear some additional testimony, because so many requests have been made.

Mr. BYRD. That is the meeting you will have next week?

The CHAIRMAN. No, that is not the meeting to be held next week. The meeting to be held next week is the meeting to hear witnesses who came for this hearing for the independent companies whom we shall not be able to hear before tomorrow night. And whether or not we have such a meeting will depend upon our success in finishing that testimony tomorrow.

Mr. MAJEWSKI. Mr. Chairman, may I ask Colonel Byrd a question?

The CHAIRMAN. Yes, sir.

Mr. MAJEWSKI. When the proposed hearings on the Big Inch and Little Big Inch pipe lines are held I hope you bring in concrete examples how the independent is going to be helped by your taking over those pipe lines. I would like to suggest that you find the input for those lines and also a market for what comes out at the other end, particularly in case you bring it out in the middle of the United States where we already have ample pipe-line facilities to take care of demands.

Mr. BYRD. For your information, I could bring it out right now.

Mr. MAJEWSKI. Please do, if the Chairman will permit it.

The CHAIRMAN. This is not the time, Mr. Majewski.

Mr. MAJEWSKI. Very well.

Mr. FELL. We have another short paper, Mr. Chairman.

The CHAIRMAN. We are ready and anxious to hear it.

Mr. FELL. Mr. Bell will now discuss taxes as they affect the independent oil producers.

The CHAIRMAN. I may say, before Mr. Bell begins, that the plea which was made on behalf of the producing segment of the oil industry for at least the parity price of oil, to me sounded very persuasive.

Mr. FELL. I appreciate that, Mr. Chairman. We were hoping we might make some progress on that.

The CHAIRMAN. To go back to Mr. McClure's statement for a moment: Mr. McClure, did you want these various exhibits in the record?

Mr. FELL. Yes, he wants those in the record.

The CHAIRMAN. The reporter has those exhibits, and they will be in the record. [*Supra*, pp. 116–135.]

STATEMENT OF CHARLES R. BELL, CERTIFIED PUBLIC ACCOUNTANT, AND COMPTROLLER OF KERR-McGEE OIL INDUSTRIES, INC., OKLAHOMA CITY, OKLA.

Mr. Bell. Mr. Chairman and gentlemen of the committee, my name is Charles R. Bell of Oklahoma City, Okla. I am a certified public accountant, and comptroller of Kerr-McGee Oil Industries, Inc., and its subsidiary companies, located at Oklahoma City, Okla.

I appear before your committee for the purpose of acquainting you with the important effect that Federal taxes based on income have on the operations of the independent producers of crude oil and natural gas. For taxable years beginning after December 31, 1945, these taxes are normal income tax and surtax, both corporate and individual.

I shall not review the multitude of other tax levies laid upon the industry, its properties, products, and movements. Suffice it is to say that the moneys collected by such levies constitute a substantial contribution toward the defrayment of governmental expenses.

At the outset I wish to emphasize that the petroleum industry, in common with other businesses, feels that one of the greatest needs is for a consistent congressional tax policy; a tax policy which recognizes and makes provisions for the risks, hazards, and peculiarities inherent in each field of private endeavor; a tax policy sufficiently broad in application to provide incentive commensurate with the risks involved. Such a policy will produce the best results from a national standpoint, because it will stimulate the investment of funds necessary to create more and better jobs through the media of new enterprises and the continued operation and expansion of existing businesses.

I am going to review some of the peculiarities of the oil-producing business and some of the risks and hazards which confront the independent oil producer in the daily conduct of his business. I shall then explain the nature, history, and purpose of the two most discussed income-tax provisions, in connection with the exploration for and the production of oil and gas, and then tell you why those provisions should be retained.

Oil and gas are exhaustible natural resources. The quantity of oil or gas in a given natural reservoir is limited and the amount which may be extracted depends not only upon the size of the structure but more so upon the thickness and other physicial characteristics of the productive formation. Many structures contain no oil and many others do not contain sufficient oil to be produced in commercial quantities. The presence of oil and the condition of the productive formations cannot be determined except by costly drilling.

Everybody knows that the producers of oil and gas, in order to remain in the business, must be constantly searching for new discoveries. Those of the independents who can afford to do so, and there are many among us who cannot afford it, employ a staff of highly trained geologists and geophysicists, who, with the aid of expensive scientific instruments, are engaged in continuous search for areas which offer possibilities for oil or gas production. In the case of the smaller independents who cannot afford to maintain a staff of technicians or obtain the services of consultants to conduct scientific exploration work, the hazards attendant to the acquisition

of leases and the drilling of test wells are perhaps greater than those of the larger independents. Without the aid of such technical services, these independents must rely upon their resourcefulness and ingenuity to obtain a part in the "plays."

In addition to the exploratory costs, the operator must obtain leases and pay delay rentals on as much land as his resources and scope of operations permit, in order to have available possible productive acreage when needed.

The operator knows from experience that his exploratory crews may work months without locating a structure thought to have possibilities of production. He knows too, that subsequent and more extensive exploration will, in many instances, indicate the desirability of abandoning the area without drilling. In other areas, test wells will be drilled, most of which will be dry.

Even after a productive area is discovered, the hazard still remains with respect to its development. After the operator has completed a commercially productive well, he cannot stop to catch his financial breath, but must drill additional wells. The additional wells are required to be drilled because:

(1) The expressed or implied covenants of the usual form of oil and gas lease require the operator to continue to develop the properties in such manner as will safeguard the interests of the farmer or other royalty owners;

(2) Usually other operators will drill wells on adjoining properties. Since oil or gas will migrate toward the nearest well, the operator, in order to safeguard his investment in the property and the interests of the farmer or other royalty owners, must drill additional wells to offset those drilled on adjoining properties; and

(3) Sound conservation practices dictate that additional wells must be drilled to define the limits of the productive area. Being drilled for this purpose, some will be dry and others will be incapable of sufficient production to repay their costs.

The producer's hazards do not end upon the completion of a commercially productive well. Maintenance of production and prevention of waste present additional problems. Usually, the natural forces which act as aids to production are exhausted before all of the recoverable oil has been produced. At this stage, the operator must abandon the property or invest additional funds for pumping equipment or repressuring installations. Unless the operator has sufficient incentives to employ these methods, much of the recoverable oil will be lost.

Your committee is primarily concerned with the Nation's petroleum resources. The point I seek to make is that the Nation's present reserves, discovered and undiscovered, are all we have, and that these reserves will suffer if early abandonment of producing properties occurs. To assure maximum recovery, the present incentive provisions of the income tax law and regulations must be retained and reasonable assurance given that there shall be a consistent congressional tax policy fairly and consistently administered.

I have shown that the oil producer's risks and hazards fall into two broad classifications: First, those respecting the exploration for and development of a producing property, and second, those respecting maximum recovery of the underlying reserves. Congress has

recognized these hazards and the special conditions and peculiarities inherent in the oil-producing business. Through approval of the Treasury regulations and by specific legislation, Congress has encouraged oil producers to risk and re-risk their funds in oil and gas ventures. This has been accomplished by means of the provisions relating to intangible drilling and development costs and to percentage depletion.

The regulation permitting the deduction of intangible drilling costs at the taxpayer's option, following initial development, was first issued in T. D. 2447, on February 8, 1917. In continuance of that principle, one of the regulations promulgated under the 1918 Act, provided that oil or gas producers might adopt, by a binding election, either a consistent policy of treating intangible drilling and development costs as current expense, or a policy of treating such costs as capital expenditures to be recovered as the oil is produced. This election applies to all the taxpayer's operations and, once made, is binding from then on. Since then, the fundamental features of that regulation have remained in continuous effect. Such changes as have been made were chiefly for the purpose of clarification, or for granting a new election under certain circumstances. During these almost 30 years, the income tax provisions of the revenue laws have been subjected to review, substantial revision and reenactment at least 11 times (Revenue Acts of 1918, 1921, 1924, 1926, 1928, 1932, 1934, 1936, 1940, 1942, and 1943). In each instance, the Congress has wisely refrained from and on occasion, expressly refused (1942) to pass legislation to modify or eliminate this regulation. Furthermore, Congress specifically recognized it in enacting the excess profits tax provisions in 1942 [Section 711 (b) (1) (I) I. R. C.].

Because of the foregoing history and background of the regulation, the producers of oil and gas have come to rely upon it as an integral part of the income tax law. This soundly established provision has been, and will continue to be, an important factor in encouraging risk money in sufficient amounts for the independents to continue their exploratory and development efforts for the production of oil, and for the continuance of marginal production.

An illustration of how sensitive the industry is to the laws and rules which have governed it during the development of its economic existence, is the upset caused last year by a decision of the United States Circuit Court of Appeals for the Fifth Circuit, which attacked the validity of the intangible development cost regulation. The established method of determining taxable income is so woven into the industry's economic fabric that had the regulation actually been declared invalid, the independent operators would have been forced to drastically curtail their exploration and development activities. Many would have been forced to abandon such programs. Congress immediately recognized the disastrous effect of uncertainty in this regard, and by concurrent resolution gave emphatic expression of its opinion recognizing the validity of the regulation. As a result oil producers, who had in the interim stopped or curtailed their drilling, thereupon resumed full scale operation.

Mr. FRASER. What happened in that case? There was a rehearing, was there not?

Mr. BELL. The motion for rehearing was denied. However, the Court reviewed its earlier decision and expressed itself as having

erroneously ruled on the validity of the regulation since that was not a point brought to bar before it.

Mr. FRASER. And that was the end of the case?

Mr. BELL. That was the end of the case.

The CHAIRMAN. Have the lawyers of the industry accepted the concurrent resolution as an effective reestablishment of the old principle?

Mr. BELL. Yes, I think as far as current matters stand they have. I have heard it expressed that with respect to prior years, it would seem that it is a proper function of the Supreme Court to decide whether the concurrent resolution expresses the intent of prior Congresses. But I think generally the industry feels that the concurrent resolution has effectively served its purpose.

Mr. FRASER. The Court has not ruled in favor of the validity of the regulation, has it?

Mr. BELL. It did not rule on that point. It first ruled on the point holding the regulation invalid. Then, it changed its opinion to the extent that it ruled on the issues brought to it from the Tax Court without considering the validity of the regulation.

Mr. FRASER. It did not reach that point?

Mr. BELL. No. [Resuming:]

The second of these essential provisions in connection with the production of oil and gas is that under which the owners of oil and gas rights compute depletion allowances based on a percentage of production receipts. This deduction, which is the lesser of 27½ percent of gross income or 50 percent of net income, is determined by reference to the annual operating results of each property. The principle on which this deduction is based was established in the Revenue Act of 1918, in the form of discovery value depletion. In original form, the depletion provision provided for a deduction sufficient to recover not the operator's cost of the discovery property, but its value within 30 days after discovery. Congress thus recognized the fundamental principle that the determination of an adequate depletion allowance must have a broader foundation than the concept of recovering the historical cost of the discovery property. This realistic provision and its successor provision have effectively provided the incentive to retain current funds to plow back into the exploration for and the development of the Nation's petroleum reserves.

In order to simplify the calculations and to remove the cause of profuse controversies incident to the determination of discovery value, Congress, in 1926, eliminated the discovery value provision, and, in lieu thereof, enacted the present percentage depletion provision. This substitution of methods of calculation did not in any way change the fundamental policy evidenced by the discovery depletion provision. This change enabled producers, at any given time, to make a more accurate determination of just how much risk money was currently available for exploratory and development ventures without having to await the settlement of controversies regarding discovery values.

Obviously as new pools are discovered, the number of undiscovered pools is correspondingly reduced. Because of this, the producer's hazards and costs will necessarily increase. Notwithstanding added risks and increased costs, the independent producers, in common with other members of the industry, are pledged to greater effort to replace

and, if possible, increase by new discoveries, the Nation's accessible reserves which were so seriously depleted by the greater-than-normal draft of wartime requirements. We believe that Congress, having adopted or approved both the intangible development cost and percentage depletion provisions as a long-range policy, will be the first to realize that their continuance is essential to the Nation's postwar petroleum program.

Before leaving the discussion of these two important provisions, I wish to remind you that the intangible development cost provision had been in the Commissioner's regulations for 8 years before Congress adopted the percentage depletion provision. It is thus clear that Congress intended that both types of deductions remain in effect, complementary to each other. This fact refutes the suggestion sometimes made that these provisions permit a greater aggregate deduction than Congress intended.

We now come to a discussion of a few administrative practices and statutory provisions, the correction, or amendment of which, we feel is desirable. We are not here talking about special features or provisions, but about matters which affect every kind of taxpaying enterprise. The obstacles and inequities to which I shall refer can be removed without serious impairment of the national revenues. This can be accomplished by simple legislative changes designed to stabilize the rules affecting income and the timing of deductions, and by which administrative practices would be redirected into their proper channels.

Many independent operators have from two to five or more unsettled tax years. The period during which the assessment of additional tax may be made has, in numerous cases, been extended for the convenience of the Government. That these taxpayers may be confronted with continued and prolonged risk of being penalized because of adverse decisions or unfavorable changes in administrative practices is not only grossly unfair, but, in a broader sense, this uncertainty retards the normal growth and expansion of an industry so vital to the business good health of postwar America.

Under our system of voluntary income tax reporting, followed by administrative audit and adjustment, the degree of uncertainty and extent of delay can grow until they become an insufferable burden on business enterprise, unless occasionally checked. Absolute certainty on all points in computing taxable income is, of course, impossible, but the fundamental aim ought to be at certainty and finality so that taxpayers may know that if their tax liabilities have been computed in accordance with industry practices and accepted accounting principles, consistently applied, their tax computations are not going to be substantially altered several years later upon Government audit.

Every businessman knows that tax administration has drifted further and further from its intended course during recent years. We smaller organizations, in estimating tax costs in our business planning, must allow for margins of error amounting to many thousands of dollars. Much of the uncertainty stems from differences between the taxpayer's and the Commissioner's opinion with respect to the timing of deductions. The existing situation has developed through an increasing administrative tendency to take advantage of the statutory provisions making "the opinion of the Commissioner" the deciding factor in questions of accounting practice, and, in general, to put the

burden on the taxpayer to show that any claimed deduction is clearly allowable under the most narrow interpretation of the legal language. Such a policy naturally breeds litigation and litigation leads to wholly unexpected decisions which are often applied retroactively.

The following example will clearly illustrate what can happen under an unstable tax policy growing out of the overextension of administrative discretion. The petroleum industry, over a period of 30 or more years, has generally followed the practice of treating geological and geophysical costs as current expenses. Prior to 1942, the Bureau of Internal Revenue had consistently allowed such costs as deductions in the year incurred. Notwithstanding this long accepted treatment, and despite the opposition of some of its most competent field personnel, the Bureau of Internal Revenue, in 1942, initiated the policy of disallowing a substantial portion of such deductions. In its instructions to field personnel, it was stated, in effect, that exploration expense incurred to determine whether properties be acquired or rejected, and which results in the acquisition of leases, must be capitalized. It was further stated that exploration expenses incurred on existing leases to determine whether to hold or drop those leases and which leads to the retention of part or all of the leases must be capitalized. Unexpected and inconsistent rulings such as this are not uncommon, and are applied retroactively to all unsettled tax years.

I want to point out that the Bureau saw fit to initiate this policy even though its justification from a practical business standpoint is none too clear. There is a lot of difference between spending money for a permanent improvement such as a building and spending money for geological and geophysical information. We in the oil producing business are continually engaged in a search for new oil reserves. We know from experience that most of the geological and geophysical information which we obtain will be negative. We know that much of the territory explored will not be leased, and that most of the land leased will be dropped as not worth testing. In view of this, we maintain that exploration is an ordinary and necessary expense of doing business and that such expense should be allowed as a deduction in the year incurred.

The CHAIRMAN. Will you return to the first sentence of that paragraph, Mr. Bell?

Mr. BELL. The last paragraph, sir?

The CHAIRMAN. I am referring to the point where you say that "the Bureau saw fit to initiate this policy." To which policy were you making reference?

Mr. BELL. The policy referred to in the paragraph above with respect to requiring the capitalization of a substantial portion of geological and geophysical expenses.

The CHAIRMAN. That is the change of policy?

Mr. BELL. That is right.

The CHAIRMAN. For how long a period prior to 1942 was the deduction as a current expense allowed?

Mr. BELL. It had been allowed since the Revenue Act of 1913.

The CHAIRMAN. So that your position is that an administrative decision changing a practice of such long duration should not be permitted because it probably amounts almost to a legislative decision?

Mr. Bell. That is correct, and my further point was that a consistent policy of that kind employed by the industry and accepted to be sound, accounting-wise, and which was followed consistently, should not be altered by whim of the Commissioner, that if there were to be a change in a policy of that kind, it should be the function of Congress to do so.

The Chairman. Thank you, sir.

Mr. Bell. (Resuming:)

In conclusion, I would like to emphasize that the oil and gas producers fully expect to continue to carry their fair share of the burden of taxation. They anticipate the need for relatively high postwar taxes. They are pledged to meet the needs of our postwar economy just as wholeheartedly as they responded to the needs and requirements of the war economy.

I would like also to reemphasize that tax based on income is one of the substantial cost factors in the producer's exploration and development activities. This will continue to be true. The producers, in order to carry on their exploration and development activities on a scale sufficient to insure a back-log of accessible petroleum reserves, adequate to meet the needs of industry, and those of our people, with ample reserves to insure national security must be assured of a reasonable tax policy, consistently administered.

Such a policy must continue to recognize the risks, hazards and peculiarities inherent in the business of producing oil and gas. It must provide an incentive for new risk money, and for the rerisking of the producer's money, this by the continuance of the percentage depletion provision and by providing a clear-cut foundation for the deductions of intangible development costs and exploration expense.

Lastly, I wish to reemphasize that one of the important needs of all businessmen is for the stabilization and simplification of income-tax law and administrative procedure, the aim being at certainty and finality so that all of us can make long-range plans without being unduly hampered by uncertainties with respect to our tax liabilities of prior years.

The Chairman. Do you care to make any amplification of your suggestion that we should have "a clear-cut foundation for the deductions of intangible development costs and exploration expense"?

Mr. Bell. Yes. Since the validity of the Commissioner's regulation has been attacked, we feel that the Congress ought to write into the Internal Revenue Code a specific provision permitting deduction or capitalization, at the taxpayer's option.

The Chairman. You referred in your statement to certain obstacles and inequities and you said, "This can be accomplished by simple legislative changes designed to stabilize the rules affecting income and the timing of deductions, and by which administrative practices would be redirected into their proper channels."

You gave us, as an illustration, an example of the administrative practice referred to—that procedure in 1942.

Mr. Bell. That is right.

The Chairman. Have you anything further to recommend about these legislative changes?

Mr. Bell. The legislative changes to which I had specific reference here are those which would more clearly define and perhaps

curtail somewhat the Commissioner's power to dictate accounting practices. That is where much of our difficulty arises.

The CHAIRMAN. I suppose that was written into the law because of the difficulty in drafting in standard language the examples which ought to guide the Commissioner.

Mr. BELL. I think that is true. I think much latitude must be given to him in many respects. What I am really getting to is that accepted accounting and industry practices ought to be more controlling.

The CHAIRMAN. Are there any questions?

Senator MOORE. No questions.

Mr. FRASER. Of course, some of those things could never be remedied by law. It is really a matter of personnel and of the friendliness and fairness of the Government official.

Mr. BELL. That is right. Much can be done through Bureau understanding and an attitude of fairness toward our business generally.

The CHAIRMAN. Mr. Fell, this concludes the presentation for this afternoon, I imagine?

Mr. FELL. We have just four more witnesses tomorrow, and I have in mind that I will be the last one. But I will probably file my statement and just speak extemporaneously, and then give you the conclusion.

The CHAIRMAN. That means tomorrow we are to hear Mr. Becker, Mr. Franklin, and Mr. Dow.

Mr. FELL. Yes; that is what I was hoping, and then I will finish up in a short period later in the afternoon.

The CHAIRMAN. Mr. Majewski, you wanted to be heard about this pipe line affair?

Mr. MAJEWSKI. I would like to, when you set a date in the future.

The CHAIRMAN. Did you want to be heard at this session?

Mr. MAJEWSKI. No. The only reason I am here now is in case someone wants to segregate earnings or divorce the marketing end from the oil business; in that event I will have something to say. Otherwise, I will be silent and just interpose a question every now and then, if I might.

The CHAIRMAN. I see. I take it, then, that you are the marketing expert?

Mr. MAJEWSKI. So my friends say. I have been at it for 37 years, and have a lot to learn.

The CHAIRMAN. If there is nothing further, the committee will stand in recess until 10 o'clock tomorrow morning.

(Whereupon, at 5:20 p. m., an adjournment was taken until 10 a. m., Thursday, March 21, 1946.)

THE INDEPENDENT PETROLEUM COMPANY

THURSDAY, MARCH 21, 1946

United States Senate,
Special Committee Investigating Petroleum Resources,
Washington, D. C.

The special committeee met, pursuant to adjournment, at 10 a. m., in room 318, Senate Office Building, Senator Joseph C. O'Mahoney (chairman) presiding.

Present: Senators O'Mahoney (chairman), Moore, Hatch, and Willis.

Also present: Henry S. Fraser, chief counsel to the committee.

Appearances: (As heretofore noted.)

The Chairman. Are you ready to proceed, Mr. Fell?

Mr. Fell. Yes. We are making one change, Mr. Chairman. Mr. Becker had to be over at the House committee this morning, so we will present Mr. Franklin as the witness on imports of crude oil and products.

The Chairman. We will be glad to hear you.

STATEMENT OF WIRT FRANKLIN, ARDMORE, OKLA.

Mr. Franklin. Mr. Chairman and gentlemen of the committee, I am Wirt Franklin, of Ardmore, Okla., an independent oil producer for more than 30 years; first chairman of the planning and coordination committee which was appointed by the President to represent the oil industry under NRA; first president of the Independent Petroleum Association of America, an organization composed of independent producers of crude petroleum and a few companies whose operations also include refining and marketing, and whose members are located in every oil-producing State in the Nation; director in charge and director of production for District No. 2, comprising 15 Middle Western States, Petroleum Administration for War, from 1941 to 1943.

The independents in the industry are glad to have the opportunity to present the facts of their situation to this committee. Once before we were compelled to seek the aid of the legislative branch of the Federal Government to avert the danger which has now returned to plague our existence. We then had no such committee as this engaged in a special and exhaustive study of oil to whom we could present our case. Had there been such a forum I have no doubt that the facts would have been disseminated more quickly to the Congress and that the conclusion reached by Congress in 1932 would have come at least a year sooner.

I am here to discuss imports of oil. I have had some experience with the subject. From the middle of 1929 nearly all of my time was given for 6 years to the fight for the existence of the independent oil producer in the United States. In this cause I had scores of earnest co-workers; they selected me to the post of leadership in what was to us a holy crusade.

Mr. Fraser. How long were you president of the Independent Petroleum Association of America?

Mr. Franklin. Six years. From its organization in 1929 until the fall of 1935. [Resuming:]

That was long ago. So long ago that only 19 members of the United States Senate, which considered and acted on our case, are in the Senate today.

The Chairman. That is too rapid a turn-over.

Mr. Franklin. I agree with you. [Resuming:]

It may, therefore, be necessary in the discussion of our case in this year 1946 to remember that few of those who did not hear the facts in 1929–32 have become as well acquainted with the case as did the members of that long-ago Congress. For that reason, I repeat, we are greatly encouraged by the existence of your committee.

It is our hope that it will not be necessary to appeal for legislation to protect the domestic oil-producing industry from the flood of imports which we fear may come unless action is taken very soon. It should be possible for the industry itself to provide the industrial statesmanship which would solve the problem. In the realm of Government policy there is appropriate machinery to aid and encourage the industry to find the solution. The President has been given broad authority on trade relations with foreign countries. In Executive Order 9647 the President prescribed certain regulations in connection with foreign-trade agreements and said that all interested persons might present to the Committee for Reciprocity Information "their views on any proposed or existing trade agreement or any aspect thereof."

Once before we were assured that this Committee for Reciprocity Information would be certain to safeguard the domestic oil industry from the effects of the trade agreement with Venezuela. We did make our views known. The Committee was quite uninterested. We hope for a better reception when we are given the opportunity to appear again in response to the assurance given in the Executive order. I here acquaint your committee with our desire to have such hearing, open, forthright, and without restriction on the completeness of the information and facts the domestic petroleum industry might present.

At this point, Mr. Chairman, I want to advert to a resolution which Mr. Brown mentioned in his testimony in response to a question by you, which has to do with this desired meeting or conference with the State Department. You will recall that Mr. Brown suggested that a proper method would be for the State Department to call a conference in which all agencies of the Government which might be interested in oil, including the Army and Navy, and importing oil companies and the representatives of the domestic industry would take part, so that we might sit down together and work out a fair and reasonable policy on imports for oil. I think that is of the utmost importance.

It has not been my good fortune on previous occasions to be present at hearings of the Reciprocity Information Committee, but I am told that their method of operation is that those interested might file a statement and appear. But at those conferences only one side is presented. Under that form of procedure no opportunity is given to the various parties interested to hear or even to be informed as to what is being presented to the committee, and therefore there is no opportunity to challenge any statement that might not be in strict accord with the conditions.

The CHAIRMAN. I might say, Mr. Franklin, that I have attended some of those meetings on behalf of the industries in my State, and while I found always that the Committee on Reciprocity Information was willing to receive any statement, and while it was willing to hear anything that might be said, perhaps within reasonable limits, one never knew, in presenting a case for an industry, what had previously gone on behind closed doors with respect to reasons that may or may not have been advanced for the reduction of rates.

The last time I was there I decided not to go again, because there were so many Members of Congress standing there before the committee, pleading with the committee to protect the industries of their States, arguing with the committee over a function which the Constitution makes the function of Congress but which Congress had delegated away to an executive agency, that I made up my mind it was a more or less futile proceeding, and that so far as I was personally concerned, I would be content thereafter to make my representations on the floor of the Senate where under the Constitution they should be made.

That, however, was not the view of Congress, because Congress has repeatedly, and by bipartisan vote, granted this power to make reciprocal trade agreements.

I think, however, that there is a disposition now in the State Department, and Government perhaps, to go further than it has gone heretofore.

In addition to being chairman of this Committee on Petroleum Resources, I am chairman of the Committee on Wool. We held a prolonged hearing last fall, in November, and developed in public session all aspects of the wool business. Then I presented a summary of the case to the President and asked the President to direct the executive agencies to work with the committee, in an effort to work out a program that would protect and stabilize the domestic wool industry. President Truman responded to that request. A directive was given, and a bill is now in course of preparation which will be a reasonable representation of the views of both the executive and legislative branches.

I think the same thing can be done with respect to oil. If this committee is still in existence, whenever any representation or notice may be given that oil is being considered as a subject of reciprocal trade negotiation, I suggest to this committee, that as a committee, if it has at that time reached a conclusion as to what the national oil policy should be, it should appear to participate in any such discussion.

Mr. FRANKLIN. I am very glad, Mr. Chairman, to hear your statement on this subject, because it conforms exactly to the situation that we found we were faced with when we protested the increase of im-

ports under the reciprocal trade agreement with Venezuela. It seems to me a proper procedure for the State Department, if they want to arrive at the facts and the effect of any action which might be taken, would be to call everybody interested in the matter together and let them see if they cannot work out a reasonable agreement fair to everybody concerned, taking into consideration the interests of the public and everyone else.

Now on that subject, the executive committee of the Independent Petroleum Association of America adopted a resolution on January 16, 1946, which I will not read but will offer for the record.

Senator Moore. It may be admitted in the record.

(The resolution referred to is as follows:)

RESOLUTION ADOPTED AT THE MEETING OF THE EXECUTIVE COMMITTEE OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA AT SHREVEPORT, LA., JANUARY 16, 1946

Whereas the importation of crude petroleum into the United States has a direct influence on the domestic petroleum industry of the United States and upon the conservation of petroleum as now in effect through the industry and the various State authorities in States wherein petroleum is produced; and

Whereas the law authorizing reciprocal trade agreements with other governments and the Government of the United States authorizes the execution of such agreements by the President upon the information and advice of the State Department and other designated agencies; and

Whereas it is important that a conference of industry and the governmental agencies with whom rests the responsibility for obtaining information and execution of such agreements be held in order that all concerned may develop a policy with relation to petroleum and such agreements: Now, therefore, be it

Resolved, That the executive committee of the Independent Petroleum Association of America in session at Shreveport, La., on this the 16th day of January 1946, recommends to the governmental agencies concerned with such programs, the various State authorities in States producing petroleum, and the companies and persons producing petroleum in the United States, and the persons and companies engaged in importing petroleum into the United States, that a conference of those concerned be called to the end that a proper policy with relation to the importation of petroleum into the United States be developed; be it further

Resolved, That copies of this resolution be presented to all agencies concerned and to the Special Senate Committee Investigating Petroleum Resources, of which committee Hon. Joseph C. O'Mahoney is now chairman and the Petroleum Subcommittee of the House Interstate and Foreign Commerce Committee of which Hon. Clarence F. Lea is chairman, with a request that such conference be called by the State Department at the earliest possible date.

Mr. Franklin (resuming). The Independent Petroleum Association of America was formed in June 1929, by independent producers who were in attendance, and as a result of facts disclosed, at a meeting of the so-called Oil Conservation Conference, which was called by the Honorable Mark L. Requa, under authority of President Hoover for the purpose of initiating a compact among the oil-producing States. The avowed and announced intention was that of conserving the Nation's petroleum resources. But it soon developed that the purpose of the conference was not one of true conservation and the prevention of waste, but one of reservation of our petroleum reserves and the supplying of our markets to the greatest extent possible with foreign oil. This conference had been preceded for several years by a campaign in the press and otherwise of misleading propaganda, similar in some respects to statements being circulated today, that our petroleum resources were being exhausted to the point of

endangering the national safety. It was there advocated that we should hold our petroleum safe in the ground, that discovery of new sources of supply and development of existing fields should be retarded and our requirements of oil and its products imported.

The independent producers who were present pointed out that such a policy, if adopted, would completely destroy the domestic oil industry and the economic well-being of large sections of the United States, particularly in the States of Texas, Louisiana, Oklahoma, Kansas, and California, which were the leading oil-producing States at that time, and whose civilization and development are to a great extent based upon the oil industry and the allied industries of manufacture and supply; but more than that, no policy could be more detrimental to the safety of the Nation than to rely upon foreign oil; that in the event we should be attacked by a first-class Power and should lose control of our ocean lanes (which is exactly what happened in the recent war) we would be completely helpless and be conquered and enslaved before we could find and develop adequate supplies of oil within our own borders; that if operations were discontinued the men engaged in the industry, the skilled workmen with the "know-how", would necessarily be scattered and forced to seek a livelihood elsewhere; and that the safety of the Nation absolutely depended upon our having at all times a healthy oil industry with adequate production within the continental United States for both peace and war.

Let us suppose that the advocates of this policy of reservation, and reliance upon imported oil, had succeeded at Colorado Springs in 1929 in making effective their declared policy and the Nation had gone along dependent upon foreign oil. It is not an exaggeration to say that World War II would have been lost in 1942. Why, we could not even ship oil from the Gulf Coast to the Atlantic seaboard. Practically every tanker that left the Gulf Coast was lost with its contents. That is the reason why in that emergency we had to resort to the building of what is known as the Big Inch and Little Big Inch pipe lines.

There is no argument in favor of importing our requirements of oil that cannot be used with equal force for importing our requirements of all other products. For instance, why should we not conserve our iron ore? It also is indispensable to national defense and during the recent war we have drawn heavily upon our reserves. Why not in truth save all our natural resources, the products of our mines and forests, and import from foreign countries our requirements thereof? This would be as reasonable a course to pursue as to save our crude oil in the ground while we import from foreign countries to supply our domestic markets.

I repeat, and I cannot emphasize it too strongly, that the safety of this Nation demands that it always be self-sufficient in its needs for petroleum produced in the continental United States. It can be if a national oil policy is developed that will give encouragement and protection to the domestic oil producer. It cannot be if the requirements of this Nation in peacetime are supplied with foreign oil, which is a policy again being advocated by many occupying high places inside the Government.

The proposals which we combat today are based first on the false assumption that we are running out of oil which makes it necessary

to import large volumes in order to conserve domestic supplies, and second, that trade with foreign nations should be encouraged. This is but a repetition of events at the end of World War I. It was frequently stated then by Members of Congress and of the Cabinet and in leading newspapers and periodicals, who had fallen victim to the propaganda then current, that—

(1) Oil produced in the United States would continue to decline and therefore occupy a less and less dominant position in world markets;

(2) It would be impossible to take out the remaining 7,000,000,000 barrels (which was our proven reserve at that time) fast enough to supply our demands;

(3) That the United States must depend more and more on petroleum imported from foreign lands or else get along with less oil; and

(4) The Government must organize a corporation to prospect for and develop production in foreign countries.

Does not that sound exactly like what we are hearing today? It is identical in every detail. The same old propaganda is now being put out throughout the Nation to convince the people of this country that our petroleum reserves have been exhausted.

This illustrates how history repeats itself even in so short a period. Yet, since 1920 more than 24,000,000,000 barrels of oil have been produced in the United States and the proven oil reserves of this country are more than 20,000,000,000 barrels, almost three times what they were in 1920.

The oil industry of the United States has furnished by far the greater part of the unprecedented demand for oil for ourselves and Allies. I think the statement has been made by Government officials that 67 percent of our overseas shipments during the war consisted of oil products to supply our forces and those of our Allies. At the peak of war demand before VJ-day we were producing a total of more than 5,100,000 barrels daily of petroleum and petroleum liquids.

Twenty-six of the 48 States now produce oil. Those 26 States are Texas, California, Oklahoma, Louisiana, Kansas, Illinois, New Mexico, Wyoming, Mississippi, Pennsylvania, Michigan, Colorado, Kentucky, Arkansas, Montana, Indiana, Ohio, West Virginia, New York, Alabama, Nebraska, Missouri, Tennessee, Florida, Virginia, and Utah. Many of the remaining States are a potential source of supply.

It is estimated that more than 1,000,000 square miles of area in the United States, yet unexplored and undeveloped, give promise of petroleum production. I might add, one of our most noted geologists, Mr. Levorsen of Tulsa, in a very exhaustive report which he made to the American Association of Petroleum Geologists, said there were over a thousand miles of what he calls up-dip, wedged-out geological formations favorable to the accumulation of oil, and stratigraphic traps. Now these stratigraphic traps cannot be found with any known instrument or tool that we have at the present time. After a certain amount of drilling has been done in the vicinity, that subsurface information sometimes exists, making it possible to locate the stratigraphic trap. But all these areas have, under the past ideas, been more or less condemned geologically, because there was no structure, anticlines, or domes. However, many of our most important fields have been in stratigraphic traps, found by random

drilling of the little independent. The great East Texas field, the greatest oil field ever discovered in the United States, the field that contains the most reserves of any one single field today, is a stratigraphic trap and was, prior to the time that a small independent from Ardmore, Okla., went down there and drilled against geological advice, considered to be a condemned area by the most noted geologists of the major companies. I only offer that as an example to show how little we know about what oil is to be discovered in the future.

Experience teaches us that if favorable conditions for exploratory work and development of new fields are maintained, many new regional areas of production will be found. On the other hand, if the Government encourages a program of imports to supply the markets of the United States, 60 to 70 percent of the markets of the entire world, the oil under that immense territory will remain undiscovered.

Oil is found only through the efforts of many thousands of men and the expenditure of enormous sums of money. It is searched for only when there is a market for it at a price which will bring profit. In the absence of that incentive the domestic oil industry will deteriorate and the trained men who explore for and develop new oil fields and the trained technicians who bring about greater recovery from old pools through improved methods and secondary recovery operations will turn to other occupations. If this happens, when the time comes that this Nation sorely needs oil for defense, neither the trained men nor the oil will be available.

Aside from national safety the Nation is interested in a prosperous oil industry for another great reason—the effect on our national economy. Entire communities throughout the 26 oil-producing States and many of these States in their entirety depend on the oil industry for the larger part of their income. Schools and colleges are maintained, roads are built, and the cost of local State government principally financed by taxes from this source. In the postwar era, should the domestic oil industry be seriously impaired or destroyed by unlimited imports of foreign oil, Texas, Louisiana, Arkansas, Oklahoma, Kansas, California, and other oil States would be all but ruined; and many other large and important industries throughout the country which manufacture and furnish the supplies, machinery, and equipment for the oil industry would likewise be critically damaged. The effect on our national economy is beyond estimate. Purchases of equipment, pay rolls, taxes, lease, and royalty payments by the oil industry run into billions of dollars annually.

Mr. Fraser. Isn't it true that the aggregate domestic sales of refined oil products constitute the greatest amount of dollar sales made by any industry in this country?

Mr. Franklin. I think that is true. [Resuming:]

More than 1,000,000 persons are employed directly by the oil industry, and hundreds of thousands more depend upon it indirectly. Hundreds of thousands of company stockholders depend to a greater or lesser extent on petroleum for a large part of their income. I have seen it stated that there are 1,500,000 of these stockholders. I do not know how authentic that figure is, but it was given by Mr. B. I. Graves of the Tidewater Associated Oil Co. in a recent address made by him.

Total taxes of the oil industry approximate $1,700,000,000 annually. Investment in the oil industry is about $15,000,000,000 exclusive of plants constructed during the recent war for the production of aviation gasoline and synthetic rubber.

Still there are those in high places who, apparently ignorant of the havoc they would wreak upon this country, would turn over the markets of the United States to Venezuela, Iran, Iraq, and other foreign sources of production. It would be just as sensible to advocate also that we buy the greater part of our steel products, now that the war is over, from the countries of Europe, or wheat and other agricultural products from Canada and Australia, and our beef from Argentina. And let me say we can get all of those things cheaper by importing them than we can produce them ourselves, with our higher level of living, and our high wage scale.

I will illustrate it by saying I bought some barbed wire just before the war closed from Montgomery Ward & Company at Ardmore, and when I went out to my ranch and looked at it the stamp was on it "Made in Germany." If I had known it beforehand I never would have bought it, because I am violently opposed to importing things that are manufactured in this country by our high-paid labor. The only way we can keep them in a highly paid condition and on a high economical level is to patronize and use the things in our operations that are produced in this country.

Within the bounds of reason, I favor the good neighbor policy, but I appeal to Congress not to let the bureaucrats and self-appointed planners seriously impair our domestic economy. "Charity begins at home.

The Independent Petroleum Association of America came into being in 1929 when the principal problem affecting the domestic oil industry, particularly the independent producers, was imports of oil from South America and Mexico. At that time it sought and obtained from Congress the opportunity to discuss this problem in hearings before the appropriate committees. In 1932 an excise tax of one-half cent per gallon was imposed by Congress on imports of crude oil and fuel oil and 2½ cents per gallon on gasoline.

The tax on gasoline has not been changed under the reciprocal trade agreement with Venezuela in 1939, but the excise tax on crude oil and fuel oil was reduced 50 percent on an amount of imported crude and fuel oil equal to 5 percent of the refinery runs in the United States in the preceding calendar year, thus making the tax one-fourth of a cent per gallon or 10½ cents per barrel. But even this 5-percent quota was eliminated in the agreement with Mexico in 1943 which automatically extended to Venezuela and all other nations with whom agreements have been made, so that there is no limit as to the amount of oil that can be imported at the reduced tax rate.

The Reciprocal Trade Agreements Act has been renewed for a period of 3 years, authorizing a 50-percent reduction in tariffs and duties existing on January 1, 1945. This confers discretion to further reduce the excise tax on crude and fuel oil to 5¼ cents per barrel, or one-eighth cent per gallon. We fear it may prove to be very harmful to the domestic oil industry, and that the additional authority granted will in all probability be used to the fullest extent. That is our fear. We hope that the conference which we discussed a while ago may avert such a disaster.

We have already had experience in the way of a direct noncompliance with what we thought was an express understanding. Early in 1940 the Secretary of State assured the chairman of the Ways and Means Committee in writing that in the event of a threat to industry—and the petroleum industry was specifically mentioned—because of the operation of the trade agreement with Venezuela, remedial action would be taken under the so-called escape clause of the trade agreement. The threat actually developed under the reduced excise tax to the point where the domestic oil-producing industry was being directly injured. In 1939—the Venezuelan trade agreement was announced in November of that year—imports averaged 162,000 barrels per day; in 1940, 229,000 barrels per day; in 1941, 266,000 barrels daily; in 1942, 99,000 barrels daily; in 1943, 174,000 barrels per day; and in 1944, 252,000 barrels per day. For 1945, the average was 311,000 barrels daily, the highest rate over a lengthy period since the excise tax on oil was imposed in June, 1932. But that is not the worst of it. It is increasing constantly. For January 1946 imports of all oils averaged 413,000 barrels daily, as reported by the Department of Commerce. That is the latest figure I was able to get.

It should be noted that the abrupt decline in imports for the year 1942 was due to the activity along our shores of the German submarines and not the good offices of the State Department.

There is attached hereto a chart entitled "Twenty-Year History of Total Petroleum Imports, Showing Effect of Excise Taxes and Trade Agreements for the Years 1926 to 1945, Inclusive." This is most illuminating.

By looking at this chart you can see how before the excise tax was enacted and became effective in June 1932 the imports were running around 300,000 barrels a day. The year following they went down to 108,000 barrels a day. Then they were gradually increased until 1939, but when the Venezuelan trade agreement became effective there was a sudden spurt, and in 1940 it went up to about 250,000 barrels a day, in 1941 to about 265,000 barrels a day, according to the chart, and then when quotas were removed there was another spurt and in 1945 they go to over 300,000 barrels per day.

Mr. Fraser. Would not you say in 1940 it was more like 225,000 barrels a day?

Mr. Franklin. The figures in the statement are correct. I was reading from the chart, and it is such a distance from the chart that I might have made an error. That chart illuminates the whole situation.

In November 1940 an official of one of the affiliates of an importing company, in a letter addressed to "those from whom we purchase oil," stated that—

> In our opinion, present conditions in the industry are worse than at any time since the chaotic days of serious overproduction in east Texas when the price of crude was driven far below the average cost of production.

The increasing imports contributed materially to this condition. An appeal to the Committee on Reciprocity Information with supporting factual data was made, but this protest and the evidence submitted were disregarded. It was the familiar pattern of the delegation of delegated authority, without review by the source of that authority, where the remote agency is entirely unresponsive to the legislative intent. The Secretary of State was apparently unable to prevent the

TWENTY YEAR HISTORY OF TOTAL PETROLEUM IMPORTS
SHOWING EFFECT OF EXCISE TAXES AND TRADE AGREEMENTS

great injury to the domestic producers of crude oil which he had so earnestly promised to remedy through the escape clause in his letter to the chairman of the Ways and Means Committee, above referred to. This is no reflection upon Mr. Hull, who was at that time so completely engrossed with many problems of international relations that it is highly probable that he heard nothing of our protest. This is but another instance illustrating the advisability, if not the necessity, of the Congress itself taking affirmative action which will prevent a miscarriage of its legislative intent in a matter of such vast importance to the domestic economy.

The CHAIRMAN. May I interrupt you to say, so that the record may show, that from the beginning of the reciprocal trade agreement program until the act was last extended, I have introduced amendments designed to give Congress a final review. It has always been my contention that while reciprocity should be encouraged and while authority should be given to an executive bureau to conduct negotiations, because they could not be efficiently conducted otherwise, before a treaty or agreement should become effective it should at least be submitted to the Congress of the United States.

Mr. FRANKLIN. I make that suggestion in here.

The CHAIRMAN. That amendment of mine has been presented on every occasion, and on every occasion it has been voted down. So that the ultimate responsibility for the policy lies on Congress.

Mr. FRANKLIN. I agree, and I hope you will continue in your good work.

The CHAIRMAN. I still believe that Congress should have the final word as to whether or not concessions of great importance, such as are embodied in trade agreements, should be made, and Congress should have the final word before they become effective.

Mr. FRANKLIN. Of course it is an old adage that the right will prevail. I would like to add to it that right will prevail if you fight for it long and hard enough.

Mr. FRASER. I should like to supplement what the chairman is saying by stating that I hope the time will come when these agreements will be regarded for what they really are, namely, treaties, and will be submitted for the consent and approval of the Senate.

The CHAIRMAN. That suggestion was also made and also defeated by the Senate.

Mr. FRANKLIN. (Resuming:) To accomplish this I suggest that Congress should reserve the right to review and approve all trade treaties before they become effective. Otherwise, not only the oil industry but other industries of just as great importance to the economic welfare of the Nation may be seriously harmed without any remedy being available, even from Congress itself. I know of no better way to emphasize this point than to quote from Senator O'Mahoney's statement to the Senate Committee on Finance, released June 5, 1945, as follows. [Reading:]

> The question which is before us for decision, stated in its simplest terms, is whether or not we shall permit the State Department to negotiate in secret economic arrangements with the nations of the world and make them effective without advance knowledge of either the Congress or the people.

The CHAIRMAN. I still stand on my position there.

Mr. Franklin. Well, that is the correct position undoubtedly, and, as I say, the right will prevail if you fight for it long enough, and I hope you will not become wearied in so doing.

Mr. Fraser. Perhaps when a comparable situation arises in the future you will see that the matter does reach the personal attention of the Secretary of State.

Mr. Franklin. Yes. Well, the reason we have called for this conference that we have talked about is that we believe that it is a matter that can be worked out amicably by all parties concerned, if we all understand the facts and know what the position of the other party is.

Imports of petroleum have for many years been a part of the oil supply of the United States. That is eminently proper at times, such as during the recent war, when it was necessary to supplement domestic production to meet essential requirements. However, if the import tax is reduced to such an extent as to have no effect whatever in equalizing prices between the high-cost production of the United States and the low-cost production from foreign countries, then perhaps a limitation of imports through a flexible quota system should be devised in all fairness to domestic producers. If imports are in amounts which will eliminate the independent oil producer, then competition in this industry is critically menaced, if not completely destroyed.

Mr. Fraser. When you say "flexible quota system," how would it operate? Who would determine when it should go up or down?

Mr. Franklin. Well, that authority has been granted in past tariff bills.

Mr. Fraser. Where we had a flexible tariff; the President had some authority.

Mr. Franklin. The Executive, from reports of the Tariff Commission, should keep in touch with the situation. When it is changed the tax might be modified up or down to meet the changed situation. That is what I had in mind.

The Chairman. The difficulty, Mr. Franklin, is to determine how that power, which is essentially discretionary, should be exercised. If Congress does not clearly define the standard by which such authority to change the quota is exercised, then the danger of arbitrary or uninformed action is greatly increased.

I might say that during the hearings on the wool problem, when Assistant Secretary of State Clayton was present, I suggested to him the possibility that since the improvement of the standard of living of the peoples of the world is one of the most effective beneficial objectives for which we labor, it might be regarded as a possible standard for the control of imports. In other words, that we should not increase imports from any country in which the living standard was below the standard of the United States except in the degree that that country increases its own living standards, thereby increasing its capacity to buy the things that we produce. Unless some such standard is adopted we stand in danger of having our living standard cut down to the living standard of the country from which importations can be secured at a very low cost. For example, take the case of sugar coming from Cuba. Now, the living standard on the plantations of Cuba is far below the living standards of the workers on the plantations in Florida and Louisiana, and certainly far below the

living standards of the families that live on our sugar-beet farms. It would be comparatively easy to expand production in Cuba, with the low scale of living that exists there, and by increasing imports to destroy the industry or seriously cripple the industry in the United States. But if there were a real reciprocal arrangement whereby the objective of all trade were taken into consideration, namely, the degree to which living standards are improved, then I think imports would be regulated by the most fundamental considerations, and it would eliminate the danger of arbitrary action by those to whom power may be delegated.

Mr. FRANKLIN. That undoubtedly would be a fine way to do it, if it could be done. However, what we have had in the past under the oil code was an arrangement whereby the imports were limited to a fixed percentage of the refined output in the United States. That is flexible. It goes up and down, depending upon demand. As demand increases, the amount of oil coming in would increase. It is that particular thing I had in mind in talking about a flexible import quota. Now, unless this is done, monopoly in the domestic industry will be engendered to the same extent as the monopoly which exists under the cartel system among a few large companies in certain countries. The Government will receive little revenue from the imported oil and the consumer will ultimately pay the same price for petroleum products that monopoly has exacted in countries outside the United States. In many foreign countries, petroleum products cost the consumer at least 50 percent more, not including taxes, than the same products sell for in this country. In the years prior to the imposition of the excise tax on oil in 1932, imports were of such volume as to cause severe hardships to the domestic oil producers.

The domestic industry cannot compete on even terms with large-volume foreign production. I might say that those concessions are granted in thousands of square miles, whereas under the law of real property in the United States we have small leases, sometimes as small as 5 acres, with the offset obligations. Again the level of living in the oil fields is so much higher than it is in the countries where this oil is produced and where the common labor is peon labor, that it can be produced there at nominal prices.

Mr. FRASER. Since the foreign concessions that you speak of are owned in large part by American companies which also operate domestically here at home, don't you think that they would have an eye to their own interest here and not import so much oil as to injure their domestic market and thereby injure themselves?

Mr. FRANKLIN. It would logically appear that that would be the case, but there have been times when, in competition for gallonage in the filling stations, to meet that competition they have increased their imports in order to get a lower cost oil, in the war for gallonage. That is an unfortunate situation, but it has occurred time and time again in the oil business throughout this country.

I might illustrate it. At one time, I think it was along in 1930 or 1931, at the instance of the independent oilmen the then existing administration, due to the distress in the oil industry and the fact that the posted price of oil had dropped to 25 cents a barrel because of excessive imports brought on by these price wars in the filling stations, asked the importers to limit their imports or prorate their

imports in line with the proration of domestic production. That was done through the Department of Commerce. The importers were called by the Secretary of Commerce and each one asked to limit his imports to a certain figure. It was done by quarters. The first quarter everything went well. It was renewed for a second quarter, and everything went well. But the third quarter one of them declined, and when one of them declined the whole fat was in the fire again, and I had to run to Congress, as president of the Independent Petroleum Association, and ask for the import tax. Had that arrangement continued, I never would have appealed to Congress for this import tax. It takes an effective order or directive of Congress in order to accomplish it, because there is always someone who will break over, in the hope of making some quick profits. Now, that is our experience. [Resuming:]

The domestic producer faces several factors which defeat him at the outset of any such contest. The oil field worker, skilled and unskilled, is paid the highest wages of any industry in peacetime. And let me tell you, in addition to that, they are all of good old American stock. They are recruited from the farms where the oil is produced, and in the oil fields you find good American citizens that believe in the fundamental principles upon which this Government is founded. That is my experience with them.

Senator Moore. They are provided with the best living conditions, also, I think you would find, would you not?

Mr. Franklin. Yes.

Foreign crude and fuel oil enters our markets without paying taxes (except the now reduced excise tax of one-fourth cent per gallon) to support the Government of the United States, the States and the political subdivisions thereof, whereas the domestic oil industry is one of the most heavily taxed of any industry, paying first in most of the States a gross production or severance tax of 4 to 10 percent of the receipts from oil and gas produced, a State and Federal gasoline tax, a State income tax, a Federal income tax, an ad valorem tax, a capital stock tax, and other taxes too numerous to mention.

Now, it is easy to raise money from the oil industry. Every State legislature in any oil-producing State, when they want to raise more money for some worthy cause, will look around to see where it can be done with the least objection and the most effective and the easiest way to collect, and at each succeeding session of the State legislature an attempt is made to raise the gasoline tax or the gross production tax on crude oil, and that takes in Oklahoma. The gross production tax in Oklahoma has, in many years, paid all the expenses of State government so that it has been unnecessary to have an ad valorem tax for State purposes.

Another factor is the matter of geology and physical forces which formed and stored petroleum in the natural reservoirs. The foreign oil fields which have contributed most to the import stream entering this country have been of the large volume per well type. Competition with production from fields of this type tends to undermine and destroy our conservation program now recognized as being so valuable to our national safety. The advantage of big volume wells in respect to cost has been greater in more recent years because of the conservation policy. Under this policy production rates per well

Source of data

have been held at levels which would make effective use of reservoir energy and thus add to the total ultimate recovery. Thus it is seen that competition with foreign oil on even terms could be made possible only by reduction of domestic costs to the level of those in foreign fields which would mean a substantial reduction in wage and salary rates in the oil industry together with reduced taxes, and the shutting down of a great number of wells. This is impractical, of course, and it is not in the national interest. The only alternative if the domestic oil industry is to be kept alive and in a healthy condition is protection from the disproportionate cost of foreign oil. That could be accomplished in three ways: (1) by a subsidy from the Public Treasury to be put on oil produced in the United States, which is abhorrent to the vast majority engaged in oil production in this country; (2) by a tariff or excise tax which would remove the cost advantage of imported oil; and (3) by limiting the volume of imports. A combination of these last two is most feasible.

We are not opposing all imports. We oppose imports on a scale that will absorb too great a part of the market for domestic oil. The cost of production of imported oil, transported to our shores in the new type fast tank ships, is so much less than the cost of producing oil in the fields of the United States, that eventually, if allowed to come into this country without reasonable control, will undermine and seriously cripple, if not destroy, the domestic producing industry.

Now, I have another chart entitled "Growth of U. S. Crude Oil Production vs. Production Estimate by Importing Company." I want to illustrate with this chart just what I mean about the same old line of publicity to convince the people of the country and the authorities of the States and the Nation that this is a dying industry. What I mean by "dying industry" is illustrated on this chart. This is from an address delivered by a prominent official of one of our great importing oil companies. He takes a look at the future. He prognosticates the amount of domestic production which will be needed up to the year 1965. He shows that commencing in 1946 we drop right down from our existing production to about 4,200,000 barrels a day. There is a slight increase then up to 1950, and then domestic production, he says, will necessarily decline to 4,000,000 barrels by 1965.

Now here is the report on what the demand will be over the next 20 years, how it will increase (indicating). Here is your normal growth running up to 7,000,000 barrels in 1965. But where is that oil going to come from? It is the same old story. If we keep up with it we want to be able to find the new reserves necessary to keep up our production. If we do not, we will have to furnish it by imports.

The CHAIRMAN. This chart seems to show, Mr. Franklin, that not until 1943 did daily production in the United States reach or exceed 4,000,000 barrels. It has exceeded that figure only in 3 years—1943, 1944, and 1945. According to this estimate, the daily production in the United States will fall off in 1950 to about 4,000,000 barrels, and thereafter until 1965 it will sort of level off at somewhere near that figure.

Mr. FRANKLIN. Yes.

The CHAIRMAN. Whereas the demand, which I take it is indicated by the line labeled "Normal Growth", is likely to continue to increase until 1965 it will reach an average requirement of about 7,000,000 barrels daily.

Mr. Franklin. That is right.

The Chairman. So that, according to this estimate, the United States will have to depend upon foreign sources of oil for its requirements above approximately 4,000,000 barrels in the future.

Mr. Franklin. That is what this chart tends to indicate, and I again wish to challenge it, as I challenged it after the other World War. I say if you give us an economic climate in which we can operate we will go ahead and produce the oil in this country that we need and remain safe. This is the same thing we have had before, as I have already said.

We will need some imports from time to time, and I do not oppose the necessary imports, but I do not want this Government to adopt a policy which means the death of the petroleum industry. When you cease to grow you begin to die. That picture is a picture of a dying oil industry in this country just as sure as the sun rises, and I do not like that kind of a picture.

Now, I have more information along that line, but I will not take any more of your time.

Mr. Jacobsen. Might I make a slight observation regarding the remark you made, Mr. Chairman?

The Chairman. Yes, certainly.

Mr. Jacobsen. You said this indicates that by 1965 we will be dependent on foreign imports for the difference between 4,000,000 barrels a day and 7,000,000 barrels a day. I would like to make the modification that that is subject to the advances that may be made in hydrogenation of coal, for instance, or conversion of gas. In other words, as I take it, this is an estimate of crude oil production. If the refining technology continues to advance during the next 20 years, as it will, undoubtedly a considerable portion of the difference will be taken up by oil produced from shale, from gas, or from coal.

The Chairman. I was merely trying to interpret the chart in my own words and not make any statement with respect to our possibilities of increasing production.

Mr. Jacobsen. Quite right.

The Chairman. Since you have raised the question, I think it should be pointed out that the Congress, carrying out the recommendation from the Department of the Interior, from Secretary Ickes, passed a bill providing for demonstration plants in the synthetic oil industry, in order to make the fullest possible utilization of all of our resources for the devolopment of oil. In other words, the purpose of that bill was not to put the Government in competition with the petroleum industry, but to have the Government carry on now the experimentation in the development of a commercial product from shale and coal, which would not be undertaken in the ordinary course of private commercial activity until the private organizations were driven to it by necessity. In other words, the synthetic fuel law is a provision for safeguarding the future, for preventing the country from being caught without adequate prepartion to meet whatever eventually may turn out.

Mr. Franklin. I think that is a very good instance of the kind and type of help the Federal Government can give to industry. I very much approve that action and the plan of operations to develop our oil shales and coal to make synthetic oil pending the time when we will need it. In one deposit alone in Colorado and Utah, on the line

near DeBeque, Colo., there is a small deposit that experts say contains 80 billion barrels of recoverable oil.

The CHAIRMAN. Let us not omit Wyoming from that list.

Mr. FRANKLIN. It does extend up into Wyoming, the same deposit. I have visited it.

Senator WILLIS. Have you any idea about the cost of recovery from shale as compared to the drilling process?

Mr. FRANKLIN. It has been stated recently that they can produce it now for about $2.25 per barrel. Whether that oil is of the same quality, that is, whether it has the same refining properties as some of our higher grade oil from wells, I am not advised.

The CHAIRMAN. The demonstration plant at Rifle, Colo., is just getting into operation, Senator.

Senator WILLIS. You haven't got the figures yet?

The CHAIRMAN. I haven't had the official report, but it has been my understanding that it is moving along very successfully and that the outlook is very much better than was anticipated for low cost, comparatively low-cost production.

Senator WILLIS. But the comparative costs have not yet been announced?

The CHAIRMAN. No.

Mr. FRANKLIN. I visited a plant making oil from shale in 1931. I spent several days there. It was put up to make oil from shale. I witnessed all the operations, but at that time it was costing the man who had invented that process—a man by the name of Harry Brown of Denver—about $3.50 a barrel, and of course he could not operate at that time in competition with well oil.

Your committee has previously heard from witnesses of the large potential production now available in many parts of the world. Mr. William B. Heroy, of the Petroleum Administration for War, told you that world production, exclusive of Russian and United States production, averaged about 1,400,000 barrels daily in 1938 and that it reached 1,850,000 barrels daily in the middle of 1945. Our Government, as a war measure, gave all possible aid and encouragement to the development of foreign fields and the physical outlets for the increased production. The war ended and the necessity of such high production passed, but the supply has been developed; it is a legacy which gives our domestic industry great concern.

All the evidence concerning the Caribbean region points unerringly to long-sustained capacity to produce more oil than ever before in history. That, of course, is the logical source of imports into the United States, from the standpoint of distance involved. But the Middle East, a region widely publicized as possessing oil resources of almost fabulous greatness, can, in the opinion of students of the economics of this situation, export oil to the United States in competition with our domestic production. Concerning Russia we know little. Our Department of Commerce some time ago suggested that Russia may become an exporter of oil, and articles published by that department have said that discoveries made by Russia have in recent years, some of them during wartime, added enormously to the known reserves of that country.

Mr. FRASER. Although we know little about Russia, maybe we know enough.

Mr. FRANKLIN. Yes. Before the excise tax was passed in 1932 Russia did export several tankers of gasoline to Detroit, where it was put on the market at 5 cents a gallon less than our domestic gasoline.

In the light of all available evidence there can be no doubt that the world supply of oil, known, developed and capable of being immediately produced, is far greater than the demand. The best and most highly concentrated market in the world is the United States. There are three automotive vehicles here for each one outside the United States. The superiority in consumption is even greater. The domestic industry has through competitive effort made petroleum products available for a price that enables any owner to use his car every day, not occasionally. Taxes derived in large part from petroleum have built a system of highways that are without parallel in any other country. Facilities for distributing products have been installed in such profusion that the consumer need spend only a few cents at a time and still find a source of supply whenever he requires it.

This market is one to attract the envy of those producing nations which lack outlet at home. It is one which must surely inspire the yearning of those companies with a large developed foreign production and limited outlet in markets contiguous to that production.

There is the developed production and here is the market—if we wish to disregard the effect upon our domestic economy and our national security. Your committee has already heard ample testimony on the adequacy of the means of transportation. We have built a great tanker fleet, some under private auspices and much of it with public funds. A policy of disposal of the Government-owned surplus tankers is being formed by the Congress. There are ships now available to transport enough oil to demoralize the oil industry of the United States.

The time for decision as to the course which shall be followed is at hand. Imports already have reached an average much higher than in any recent year. A pattern once established continues until somebody does something about it. It would not be long, under a program of steady increase in imports, such as we have witnessed in the recent past, before the domestic oil-producing industry would begin to feel the effect, either in a reduction in the already non-compensatory price for crude oil, or reduction in a volume which the domestic producer can sell.

The first impact of large volume imports would naturally fall on the so-called stripper well fields. They have a small daily production per well and have the highest cost. Collectively, they represent about three-fourths of all the producing oil wells in the United States and the recoverable reserve is on the order of 4 to 5 billion barrels, applying secondary recovery methods which, under prevailing prices, are not possible in many of the fields This class of reserves increases constantly as once large wells decline and finally become strippers. It is in the national interest that this class of domestic reserves be kept actively functioning. For one thing, they are the mainstay of hundreds of communities.

Now for fear that I might have been misunderstood in what I said yesterday about subsidies, I am fundamentally opposed to any subsidy by the Government in peacetime. Although, as Mr. Carper said, the pressure maintenance in his field is considerable, I would

rather forego the subsidy, if this country can do away with subsidies altogether, than to have the benefit of it.

I think the effective way, and the only way, under our system of enterprise and our form of Government, and under the fundamental principles which have heretofore endured before this war brought on the subsidy problem, is for an adequate price for oil. I was getting a subsidy of 17 cents a barrel. The price of oil, as was shown here yesterday when Mr. Byrd testified, according to the commodity index of the Department of Labor, was only about 61 percent. Everything else has gone above parity. Talk about holding the line! We have never even been inside of the line.

How could it be inflationary to increase the price of crude oil until it would be increased above parity, as nearly everything else has been? While oil during the war was the single commodity, the most indispensable commodity for the winning of the war, it was the only one where the price was held steadfast throughout the war, without any relief whatever regardless of increasing costs.

Now I take it that if you maintain a subsidy you will have to maintain price control. You cannot have your cake and eat it. I do not believe in price controls whenever the production of a commodity equals or exceeds the consumptive demand. That situation had been brought about months ago in the oil industry, and there is no longer any excuse for maintaining price controls in the oil industry by any conceivable formula. Therefore I oppose subsidies for oil, the same as I opposed them on everything else, although it is against my own interests.

Mr. Fraser. Mr. Jacobsen, do you share Mr. Franklin's views on subsidies?

Mr. Jacobsen. Well, I do to this extent, that I am against a subsidy for any industry, whether you take them singly or all together. I would not say that I would want a subsidy in the oil industry if they have it in other industries. Even if they do have it in other industries I still would not want a subsidy in the oil industry. I think the subsidies are bad. I think they are uneconomic, as I explained yesterday. I think they put a premium on inefficiency, and I am agin' them.

Mr. Franklin. Pardon me for taking so much time on that, but I was afraid I did not make myself exactly clear yesterday.

The Chairman. I think you made yourself very clear, Mr. Franklin.

Mr. Franklin (resuming). Under a program of wise usage of domestic reserves we will keep on adding to reserves. Discovery is a function of use. Demand for oil spurs exploratory activity. Thus we have spread the production of oil throughout the history of the industry from the first producing State to 25 others—some of the newer ones of which are apparently on the threshold of becoming important. All except six are of considerable importance both locally and nationally.

It is fortunate for the consumer that there is wide distribution of the known reserves of oil in the United States. The oil products are thus more available to consumers than would be the case if the supply came from a centralized source. Should we get into a position of dependence on foreign oil the search for new fields would be curtailed, and perhaps almost ended, and the higher-cost producing

properties would be shut in or abandoned, as low price invariably leads to the sale of equipment salvaged from producing wells. Thus, the supply of oil for inland refineries would decline. Only a few of the refining companies in the United States—a bare half dozen—are in position to import foreign oil.

We in the producing industry do not fear the bogey-man of exhaustion of our oil resources. We do fear that we shall not be encouraged to find and develop them. We believe that great reserves await discovery. There is much unexplored area in the United States, as I have already stated. On this subject your committee has already heard eloquent and convincing testimony.

What I would emphasize at this time is the sound principle that the domestic oil industry should be given the first opportunity to supply the petroleum needs of the United States. Upon this principle depends the present welfare and the future security of our Nation.

The domestic oil industry has given thorough consideration to the question of imports of petroleum and petroleum products. There is little difference of opinion as to what is the best policy for the Nation. This policy is clearly enunciated and sharply outlined in two resolutions which are attached to this statement.

The first resolution is that of the Independent Petroleum Association of America, which was adopted to the annual meeting of the membership at Tulsa, Okla., October 17, 1945 (*infra*, this page).

The second of the two resolutions was adopted on October 24, 1945 by the Petroleum Industry War Council, created by the Petroleum Administrator for War as advisory to him, but now dissolved (*infra*, p. 173). It was composed of representatives of the large integrated oil companies as well as of small companies, of companies with foreign holdings who import oil, and those whose operations are entirely within the United States.

This Council declared that in the public interest and in the interest of maintaining national security it should be the policy of this Nation to restrict amounts of imported oil to such quantities as will not disturb or distress the producing end of the domestic industry and only such amounts of oil should be imported as may be absolutely necessary to augment our domestic production when it is produced under conditions consonant with good conservation practices.

(The resolutions submitted by Mr. Franklin are as follows:)

RESOLUTION RECOMMENDED BY THE OIL AND GAS PRODUCTION COMMITTEE OF THE INDEPENDENT PERTOLEUM ASSOCIATION OF AMERICA AND ADOPTED AT THE ANNUAL MEETING OF THE ASSOCIATION, OCTOBER 17, 1945

Whereas for many years some have urged the reservation of our natural petroleum resources, rather than their true conservation, through the misunderstanding that there is a shortage of petroleum resources in the United States;

And whereas in 1929 a conference under Federal auspices was called at Colorado Springs to consider the conservation of our natural petroleum resources;

And whereas at that conference many in Government and some in industry advocated the principle of withholding the reserves of crude petroleum in the United States for future use and the importing of crude petroleum and its products for our current needs;

And whereas if such a program had been adopted it would have drastically reduced the incentive to explore for and develop new crude oil reserves in this country, as a result of which it would have been impossible during the period

between 1929 and 1941 to build up the large proven reserves of crude oil and the excess productive capacity which proved to be a decisive factor in the winning of World War II;

And whereas many are again recommending reservation of petroleum resources in this Nation and advocating a policy of supplying our needs with imports;

And whereas the petroleum resources of the United States are adequate to meet the requirements for domestic use and a proper portion of the export market;

And whereas the oil producers of this Nation, under Government restrictions, have had inadequate materials and labor and an insufficient price for their product during the war period: Now, therefore, be it

Resolved, That the Oil and Gas Production Committee of the Independent Petroleum Association of America, in meeting assembled at Dallas, Tex., on the 20th day of August 1945, recommends to the membership of the Independent Petroleum Association of America that they stress the fact that the oil producers of this Nation should be given an opportunity, with adequate tools consisting of necessary materials and labor, an adequate price and a sound tax program, to continue to discover, develop, and make available ample supplies of petroleum and petroleum products for present and future use before consideration is given to furnishing the needs of our Nation through imported oil; And be it further

Resolved that the domestic industry should always have the first opportunity to supply the petroleum needs of the United States at fair prices. If at any future time imports are necessary to supplement the domestic supply they should be only in amounts required to furnish adequate Government and civilian requirements. They should not be in quantities that would be harmful to the domestic industry; And be it further

Resolved that the Congress of the United States be requested and urged to take such action to restrict imports in the manner referred to, either through import taxes, import quotas, or through such other procedure as it may determine; And be it further

Resolved, That copies of this resolution be furnished to the Members of Congress and to other Government agencies concerned.

RESOLUTION ADOPTED BY PETROLEUM INDUSTRY WAR COUNCIL, OCTOBER 24, 1945.

Whereas during the emergency just ended, in order to meet accelerated war requirements, this Nation found it necessary to import abnormal quantities of crude oil and refined products from foreign sources; and

Whereas the future of the domestic petroleum industry in this country depends on the maintenance of sufficient reserves and the productivity of its many fields, thereby enabling the industry to meet all the requirements incident to an expanding domestic economy; and

Whereas the continued importation of large quantities of crude oil and products at prices below the cost of production in this country would have a depressing effect on exploration, development, and production in the domestic industry; Now, therefore, be it

Resolved, by the Petroleum Industry War Council, assembled on this 24th day of October 1945, in Washington, D. C., that it does declare that the public interest and that in the interest of maintaining national security it should be the policy of this Nation to so restrict amounts of imported oil so that such quantities will not disturb or depress the producing end of the domestic petroleum industry, and only such amounts of oil should be imported into this country as is absolutely necessary to augment our domestic production when it is produced under conditions consonant with good conservation practices.

The CHAIRMAN. Are there any questions?

Colonel WRIGHT. May I ask a question?

The CHAIRMAN. Colonel Wright.

Colonel WRIGHT. Isn't it true that the practice of the importing companies has considerably changed in the last ten years in regard to what they do with the refined product? Isn't it true on the whole now that the valuable products are exported and the residuals, the distillates, are left in this country?

Mr. FRANKLIN. That is true in the main. That has always been the policy, though.

Colonel WRIGHT. It used to be that they did sell most of the valuable products, the gasoline, and so forth, in this country.

Mr. FRANKLIN. They sold imported gasoline along the Atlantic seaboard. As I said awhile ago, that was one of the reasons that the understanding we had with the Secretary of Commerce did not work out. One of them wanted to sell more of that gasoline along the Atlantic seaboard and therefore failed to carry out the request for the third quarter. You cannot have an understanding for imports which would be a violation of the antitrust laws. For them to agree on a quota, it must be done under the direction of the Government, either by Congress or the State Department. If the State Department would have authority to call such a conference and arrange a fair quota system it would be beneficial to all parties concerned, and I hope that is the way it can be worked out.

Mr. FRASER. We have had testimony that there would be a shortage, if there is not now, of residual fuel oil, that we do not get enough here in this country for our needs.

Mr. FRANKLIN. That was another one of those shortages created by price ceilings.

Mr. FRASER. You do not think that condition would exist in peacetime?

Mr. FRANKLIN. No. In past years one of the drugs on the market and a hard thing for the independent refiner to get rid of was his fuel oil, but when you put a price ceiling on it that makes it noncompensatory, they make the higher priced products. I think it is summed up in what I have already said. It was a shortage created by a price ceilingf, an artificial shortage.

Mr. JACOBSEN. Mr. Chairman, the Colonel touched upon a matter that I would like to emphasize. It is an important one. In talking about imports we really ought always to deal with net imports, that is imports less exports. The import figure taken by itself is not significant, because we could have, in a certain period, a larger import and still have a smaller net import by virtue of the fact we had larger exports. The significant figure is always the net import figure, or the net export figure as we had in some years.

Mr. FRANKLIN. I do not agree with that at all. From the beginning of the oil industry in this country we have exported oil. We have exported oil for years before we ever imported a barrel. We maintained those markets, and will continue to maintain those markets as long as our oil companies engage in exporting and are able to hold those markets against foreign competition. It does not lessen the effect of imported oil one iota if we export, because we can only export to markets where there is a demand for specialty oils produced in this country, like the lubricating oils from Pennsylvania. That is the reason they want to take those oils, those lubricating oils, and other specialties.

Of course, in gasoline there is a big export market right now, because the refineries in Europe were largely destroyed and are not operated. We will have a big export market for a limited time, and then when those refineries are rejuvenated, rebuilt, and rehabilitated and are supplied with oil from the Near East, we will lose that export market.

I do not agree with Mr. Jacobsen at all.

Mr. Jacobsen. I do not want to get into an argument about it, but I still maintain the significant figure is the net figure. That is the whole point. I am not saying we should not keep our export markets. Of course we should.

The Chairman. Mr. Rayner, do you care to make any comment?

Mr. Rayner. Mr. Chairman, I did not come prepared to make a statement. I subscribe to what Mr. Jacobsen has said. I think very definitely the significant figure is the net import over exports in this country that should be considered. I think also in that imports chart some consideration should be taken of the fact that in the periods of large importations the war was still going on and we were producing in this country, as I understand it, a maximum amount of oil. So the military use, the military necessity for importing oil, certainly did have some bearing on the quantities imported.

The Chairman. It was not my intention to invite you into the debate between Mr. Franklin and Mr. Jacobsen, but to give you an opportunity to make any expression you care to on the general subject, particularly with respect to the policy of receiving full information. A very valuable suggestion has been made by Mr. Franklin, that in any consideration that may be undertaken in the future with respect to oil and reciprocal trade agreements an opportunity be extended to the industry for a very full presentation of its point of view. You heard him make the suggestion about the holding of the conference.

Mr. Rayner. Mr. Chairman, I have been under the impression that the Committee for Reciprocity Information was the medium through which that full discussion, full information, would be submitted.

The Chairman. The complaint, as I stated a little bit earlier, about the Committee for Reciprocity Information is this, that when the notice of the intention to negotiate a reciprocal trade agreement is given, ordinarily every commodity which is the subject of trade between the two countries is included in the notice, but the people of the United States who are in these various industries are not actually given any knowledge or notice of the precise commodities upon which it is proposed to negotiate. So that in the past, when these hearings before the Committee for Reciprocity Information have been held, representatives of domestic industry have gone before the committee without any knowledge whatsoever of the negotiations that have preceded them.

Mr. Rayner. I think that situation should be corrected. I certainly approve of the full and adequate and thorough investigation of any subject on which action is to be taken. I think that is why the hearings before this Senate committee have been very valuable. They are certainly very instructive to me. I am not aware of the activities of the Committee for Reciprocity Information, but I thoroughly agree with what you say about it. If their functions are such as to limit debate, or to stifle it in any way, I think it should be corrected, and I think only by a full hearing on any subject can the right legislation be enacted.

The Chairman. I think that will be a very encouraging statement to the members of the audience.

Mr. Fell. Yes, indeed. I assume what Mr. Rayner means by that is that all parties of interest should have available to them the testimony of other parties of interest. In other words, that nobody should be permitted to put any information in that is not available to the opposing side and which they do not have an opportunity to answer.

Mr. Rayner. I am not aware of the rules of procedure affecting the activities before the Committee on Reciprocity Information, but in general principle I would say, just as I have said, that certainly full and adequate information should be secured on all subjects.

Mr. Fell. The rules could be changed, I suppose. I suppose they are made by the State Department and they could be changed.

The Chairman. The position of the industry I think may be summed up in Woodrow Wilson's famous phrase of "Open agreements openly arrived at."

Mr. Fraser, who watches every word, calls my attention to the fact that Mr. Wilson's word was "covenants," not "agreements." I changed it to "agreements," because we are dealing with agreements.

Your next witness, Mr. Fell.

Mr. Fell. Our next witness will be Mr. Dow.

STATEMENT OF FAYETTE B. DOW, OF WASHINGTON, D. C., REPRESENTING THE NATIONAL PETROLEUM ASSOCIATION; WESTERN PETROLEUM REFINERS ASSOCIATION

Mr. Dow. Mr. Chairman, I have already been introduced by Colonel Fell, so I will proceed immediately.

The Chaiman. Mr. Dow, we are happy to hear you.

Mr. Dow. I prepared a short preface to my statement for reasons indicated therein.

These hearings, dealing with various phases of the oil industry, were begun while World War II was in progress and have been held at intervals over a considerable period of time. My statement on the independent refiner was prepared, on request, some months ago in essentially its present form. It was not intended to be, and is not, a statement of the economic conditions confronting the petroleum refiner, small or large, at any particular time in the history of refining. Any statement which attempted to do that, and no more, might be out of date and untrue in such a relatively short time as to have little enduring value.

But it will not be out of keeping with the general character of my statement to indicate briefly what has happened since VJ-day and how it has affected the independent refiner, in fact the refining business as a whole. The beginning of the war period found petroleum prices at a low level, by any standards of comparison, and they were frozen there, so far as freedom to increase them without Government approval is concerned. The profits of the war period were made, not by price but by volume. The Government-at-war was the urgent, dominant, and largest buyer. During the war new production of automotive equipment of all kinds for civilian use was stopped or reduced to insignificant quantities. Existing automotive equipment was worn out and scrapped to the extent of millions of units. Within a few weeks after the war ended, the demand for gasoline, which accounts for almost half of the barrel of crude oil, and is the cash crop

for the greater part of the industry, began to drop sharply, inventories started to rise to record levels, and the gasoline price structure experienced an as yet uninterrupted decline, in response to these demand-supply relationships. The Government ceilings on gasoline, low as they are, and still applicable on paper, mean nothing. They are no longer attainable. During the same period price ceilings on some of the heavier products, as to which there have been, and are, some shortages, have prevented the production of quantities necessary to supply the demand. In the meantime, unit costs are mounting very substantially, due to increases in wages, in expense of maintenance, in cost of improvements, and due to reduced volume of through-put and other factors. Financial statements covering recent months which I have received show that many independent refining companies, which operated with modest profits during the war, are now in the red and for the whole industry I doubt whether refining is on the profit side of the dividing line between profit and loss.

At this moment, therefore, oil refiners have a free economy as to part of their business and as to the remainder are subject to the minute controls of Government price fixing. So far as the oil industry is concerned, the Government is overstaying its leave in the fixing of prices. Failure to recognize this will postpone the processes of adjustment that can alone correct the conditions, and such failure will bear hardest on the independent branches of the business.

The CHAIRMAN. Mr. Dow, I think that is a very clear and succinct statement of a condition in the industry which has been represented to me as existing for some time past. I wonder if we might invite Mr. Reppert at this point to join the discussion?

Mr. DOW. Before he does that, may I add one thing which I intended to add to my statement? There have been, in the last few days, some increases in heavy residual fuel prices, in asphalt, tractor fuel, and so forth. Nothing I have said is intended as criticism of OPA. I have been twice a bureaucrat myself, and I understand the position of men working in Government service, working under a statute and carrying out policies that may be made for them.

The thing that impresses me on this matter of price fixing is the matter of timing. Prices in business normally change one way or another with rapidity. They cannot wait for the months of consideration, the filing of briefs, and that sort of thing, which the Government bureau has to give to it.

I want to illustrate that in a field that is outside the petroleum field. The Government is committed permanently to price fixing in the matter of transportation, that is, freight rates under the Interstate Commerce Commission's jurisdiction. After the railroads were returned to their owners following World War I, they said that they needed more money and they asked for substantial increases. Now, everyone was entitled to be heard, of course, and hearings were held, briefs were submitted and arguments made, and finally a new schedule of freight rates went into effect which increased rates in the entire eastern section of the United States by 40 percent, and interterritorially by 33½ percent, which were very large increases. Those freight rate increases became effective on August 5, 1920.

In the meantime, commencing in May 1920, prices of commodities had begun to fall, and all along the line they fell throughout 1920.

Petroleum prices began to fall in January 1921 and continued to fall throughout the first half of that year. Crude oil in the mid continent field dropped from $3.50 to $1.50, and Pennsylvania crude from $6.10 to $3, and so forth. What that meant was this, that it was a time when industry had on its shelves goods which had been made at a high cost of materials, and was in the process, necessarily, of selling those goods at descending prices, and it was confronted all of a sudden with these large increases in the cost of distribution of those goods through these higher freight rates. Now, if that increase in transportation cost on an even more moderate level could have been made two years earlier, then the Government would have had some money to compensate it in part for the cost of Government operation and control, and the railroads would have had some money out of which to pay for rehabilitation of their property.

The timing was wrong, and it was badly wrong, and I do not see how it is ever going to be possible for a Government department, even though its judgment may be the very best, because of the process which it has to go through, to time the changes in prices in such a way as not to do the thing that ought to have been done sometime before at a time when it not only made it too small and too late but much too late.

Here we are in a situation that interests me from that standpoint, because while the gasoline price structure since November at the refinery has been declining, and still is—recently a small increase in the price of crude was announced—it comes against the current, so far as the independent refiner is concerned, and I think so far as the major company is concerned in its refinery operations. Excuse me for interrupting. I would be glad to have Mr. Reppert interrupt my testimony.

The Chairman. There can be no doubt that in a free economy, price and all other factors move automatically up to a certain point. That movement is interrupted when organization of any particular industry tends to fall under any degree of private control. It is when private regimentation of industry arises that the public turns toward the Government to step in. Now, necessarily any sort of regulation impedes the movement of the free market and does not permit this timing of which you speak. But it is the abuse of one type of control that leads to the other type of control, and our problem in the postwar world is to have the largest possible amount of free economy, so it seems to me, without permitting the abuses to arise which have been so hard upon the general public.

The question with which we are confronted, however, is the question of regulation in war and in peace, and I think, in fact I know, the disposition of the Government is to eliminate the controls as rapidly as possible. The immediate question raised by your prefatory statement, however, is that having to do with the failure of OPA to allow increases upon the heavier petroleum products, although there is a big demand, while compelling the industry to depend upon the income derived from gasoline, upon which the ceiling is no longer effective. That was the question on which I wanted to invite Mr. Reppert's comment.

Mr. Reppert. Do you wish me to comment now, sir?

The Chairman. If you please, and if it is agreeable to you.

Mr. Reppert. First of all, Mr. Chairman, I would like to say we are trying to withdraw from the price-control activities in the oil in-

dustry as quickly as possible. Mr. Bowles recently wrote to Congressman Patman, in response to a letter he received, and Mr. Bowles' reply, which was made public, indicated OPA's policy with respect to this industry. We are presently working on a price-suspension policy which we will have in effect, as the letter stated, in not less than 6 months, possibly prior to June 30. I have every confidence that we can have it effective by June 30, and we are working toward that end. We have realized for several months that there are factors that would contribute to a satisfactory price-suspension program in this industry.

The CHAIRMAN. Do you recognize the correctness of the diagnosis given by Mr. Dow with respect to pricing on the heavy petroleum products for which there is a demand, a demand which cannot be met at present ceilings?

Mr. REPPERT. Yes, sir. I would like to make a statement on that, though.

The CHAIRMAN. Proceed.

Mr. REPPERT. I found after VJ-day, when I became active in the petroleum part of the price work, that the industry had not formed the habit of contacting OPA with their problems. They always took their problems and were invited to take their problems to the Petroleum Administrator for War. I had not had that experience in my 4 years in OPA with other industries. I was a little bit amazed at the events as they later turned out. For instance, we had nothing to do with supply and distribution of petroleum products; we were merely acting as the price agency. They made recommendations to us. I want to say we always followed their recommendations. But to me the harmful thing that occurred after the war ended was the fact that neither PAW, who at that time started to liquidate their affairs, nor the industry, came to OPA and said, "As the result of the end of the war we are going to be required to shift our production on to various refined products. We are going to require some relief from this strait-jacket of prices," as the industry puts it. "We will have to have higher prices for fuel oils." So, we were not familiar with the supply and distribution problems. They were handled entirely by another Government agency.

I can assure you, and I have told these people repeatedly that had they come to us or had we known that a shortage was imminent in fuel oils, we would have taken action ourselves. But we were not advised until in November. Late in November we had a letter from Mr. Callis, who was here yesterday and who is a large distributor of petroleum products, saying he was no longer able to get kerosene. Immediately we appointed what we called the East Coast Fuel Oil Industry Advisory Committee to tell us what was wrong. We had meetings with them in New York on November 30. They made recommendations to us on December 7, and I think in a week or 10 days we made adjustments in kerosene and distillate prices. I am trying to say to you that there is a standard in OPA work. It has always been there. That is, where there is a possibility of a shortage and we are required to increase the price to bring out the proper supply of any product, we have used it many, many times. We could have used it for the oil industry if PAW had told us immediately after VJ-day of this change; we could have undertaken increases in the price of those oils, which we have done since then, of course.

But I would say the activity in the shortages that have occurred in the last 3 or 4 months is the principal reason why we were not further along with our OPA control program.

Now, I might say this. He speaks of the gasoline situation. In the case of gasoline the producers and refiners went ahead after VJ-day, as indicated here, and produced gasoline on a large scale. Presumably the point is made by individuals that they produced gasoline on a large scale because they could get, or would get a higher price for it, and for earnings reasons they were unable to produce fuel oils. Is not that the point, Mr. Dow?

Mr. Dow. I think that is a factor in the situation; yes.

Mr. Reppert. They say there is no flexibility there which would permit them to increase fuel oil prices so they could produce a greater volume. That is a point, is it not?

Mr. Dow. I think that is a factor in the situation; yes.

Mr. Reppert. The strange thing to me is if the industry knew of this extreme demand for fuel oil which came on us this winter, that they would continue this tremendous production of gasoline which has resulted in breaking the price of gasoline. I do not see how, from their past experience, they could have seen it would result otherwise. It broke the price of gasoline to the extent of three-fourths of a cent, which today means about 15 cents in sales' realization per barrel of crude at oil refineries.

You can yourself quickly realize what 15 cents a barrel of the total production would mean, as to the loss they are taking by reason of their pushing this gasoline production. They chose to do it that way while they knew there would be a shortage of fuel oil, rather than maintain the price of gasoline by keeping the production somewhat in step with demand, and coming to us for adjustments on residual fuel oil prices.

The Chairman. Do you mean, Mr. Reppert, that the oil industry did not present its case to OPA after VJ-day?

Mr. Reppert. I can say to you, Mr. Chairman, that the first indication that our office knew that there might be a shortage in fuel oils this winter was at the time we received this letter from Mr. Callis, which was late in November and about the same time the Petroleum Administration for War published their final booklet pointing out to the industry steps that they should take to prevent shortages this winter.

In our first meeting, on November 30, with this advisory committee we appointed in New York State, Mr. Stewart Coleman as a marketing economist said, "I do not understand why the industry would go ahead on this sort of program, the production of gasoline, knowing there is going to be a shortage of fuel oil."

The Chairman. The PAW was staffed almost exclusively from the industry?

Mr. Reppert. That is true. I am saying to you until we received the letter in November from Mr. Callis, until we saw this report, OPA had no knowledge that there was this dislocation. They never came to us and said, "We will need these adjustments," because we would have made these adjustments.

The Chairman. May I ask you to put into the record, at your convenience, at this point, a statement showing the changes which have been made by OPA in petroleum prices?

Mr. REPPERT. Yes, sir.

The CHAIRMAN. In oil products.

Mr. REPPERT. Yes, sir. May I continue? I wanted to say something about that.

The CHAIRMAN. Yes.

Mr. REPPERT. The commodity that is most short today is residual fuel oil, largely used by industry. Tremendous demands have come on the industry from the Navy and War Shipping, because their programs have been extended terrifically in the last few months.

I can illustrate it by saying that our industry committee, on December 5, recommended that certain residuals should be obtained, and within 60 days after that they adjusted their recommendations 20 percent because of the demands of the Navy and War Shipping for this particular product.

Generally, in the Gulf coast area in 1941, the price of residual fuel oil was 85 cents, and I believe during the war we increased it to 97 cents. This adjustment that we have just made will bring it up to $1.17.

The CHAIRMAN. When does that become effective?

Mr. REPPERT. That was effective last month, sir. For instance, in December and again in January, we increased the price of kerosene and distillate fuel oils, which are the domestic side of the business, one-half cent per gallon.

There is one point that has been made here that I would like to mention, and it was made again this morning. It was in Colonel Byrd's statement yesterday. That is in connection with the parity. The Bureau of Labor Statistics, in presenting its cost-of-living data, as you know, used the year 1926. I just merely want to call attention to the fact that the price of crude oil in 1926 was $1.88 a barrel, and it has not come within 55 cents of that since that time.

I wish to call attention to the fact that, taking the average of the years 1926 up to the beginning of the war, the average price of crude oil is $1.044. On that basis the present parity is $1.20, approximately $1.20, whereas it is $1.07, as I say, on the rest of the commodities.

The CHAIRMAN. On what basis?

Mr. REPPERT. On the basis of taking the average price of crude oil from 1927 through 1941.

The CHAIRMAN. Of course, that would give a distorted average, would it not, because of the inclusion of the entire period of the depression? I think that is the complaint of the industry,

Mr. REPPERT. What I am trying to say, Mr. Chairman, is the use of 1926 and the $1.88 price distorts it equally as much the other way, if not more so, sir.

The CHAIRMAN. 1926 is 3 years before the top in 1929, which preceded the collapse.

Mr. REPPERT. That is right. Right now the average price of crude in the country is approximately $1.23 a barrel.

The CHAIRMAN. The important part of your statement is the declaration of the willingness of OPA to look at the facts as they exist, and to review and change the ceilings in the light of the information which is obtained.

Mr. REPPERT. Yes.

Mr. Dow. May I add one comment?

The CHAIRMAN. Yes.

Mr. Dow. The Bureau of Labor Statistics have been using 1926 as 100 for all commodities except agricultural products, which has been used for 20 years. All the Government publications, in indicating to the American people the ratio of petroleum and other fuels, iron, steel, lead, and what not, right through the commodity list, use 1926 as 100.

Now the thing I do not like—and I am speaking only personally, because this is not a part of my presentation—I do not like to have the rules of the game shifted, because they bring about another result when you do shift them.

We experienced in the years following 1926, and particularly after the bringing in of the East Texas field, a long period of depressed prices on crude oil and its products, with crude selling at one time at a posted price of 25 cents and a going market of 10 cents.

Now to take that period in the depression years and looking at that as a base—1941 prices look better, or 1944 prices look better—to my mind is not playing the game quite straight.

If 1926, in connection with prices, was not a fair base, then Government itself should have taken some other base. Having taken it, whatever it was, high or low in 1926, the relation between what has happened to other commodities and what has happened to oil is a perfectly valid comparison on the part of the oil industry.

I do not like, frankly, the change in position which Mr. Reppert takes, in taking another base and another comparison, when we are dealing with the comparison between petroleum and its products with what has happened, without a serious inflation, to the entire range of commodities. It is not quite straight, in my opinion. This is not a personal criticism of Mr. Reppert; it is a criticism of a method of dealing with the situation which I, at least, cannot approve.

The Chairman. In any event, OPA is now attacking the problem.

Mr. Fell. If I might add a word, Mr. Dow, you know and most everyone knows that in 1927 the great Seminole field came in; in 1929 the great Oklahoma City field came in; and in 1930 the great East Texas field, the greatest field in the country, came in. We had depressed crude oil prices all during that period that he is now trying to take as a base. Even the former head of the OPA, Mr. Leon Henderson, in 1941 said we were at depressed prices when we came into the war. I agree with Mr. Dow. I just do not think it is playing the game fairly. I think if you are going to play the game according to rules, let us keep the same rules and then we will play the game with them.

Mr. Reppert. Mr. Chairman, I merely made the point to point out to you people that the 59 or 60 percent of parity is really not a fair statement of the situation with respect to the industry today. For instance, if you will recall, the famous English coal strike took place in 1926 and coal prices I think went up to $5 or $6. I have handled the coal industry for 3 years. The coal industry could come in today with the same sort of comparison, don't you see.

I would like to change my remarks to this extent: Our base period in OPA for relating the current operating position to the base period is 1936–39. On that basis, sir, you are even above the average for the country on a parity basis with present prices.

Captain Franchot. Mr. Chairman, I think I would be remiss if I did not put a plug in for the Navy on this question, merely to emphasize the seriousness of it.

During the first quarter of 1946 our over-all military requirements were in the nature of 270,000 barrels per day. We fell something like 47,000, at least, perhaps more—the exact figures are not in my mind—below our requirements, and we had to take it out of stocks in order to meet it. That was partly due, of course, to the fact that the magnitude of the magic carpet had not been realized until 6 or 7 months ago.

The situation of the second quarter, at the present moment, is much more serious. With the additional demands put on the military by UNRRA, which were not originally contemplated, the daily demand is still in the neighborhood of 270,000 barrels. As of yesterday our shortage, instead of being 47,000 barrels a day, looks like something in the neighborhood of 167,000 barrels a day. It is a very serious situation. As far as we know, the bottleneck is the question of the price of the residual fuels. I am merely saying this to emphasize the importance of speed in the solution of the problem.

The CHAIRMAN. Thank you, Captain Franchot.

Did you want to ask a question, Mr. Fraser?

Mr. FRASER. Yes; just one question. You remember, Mr. Reppert, the old saying that the only way to resume is to resume. I just cannot fathom why there should be a program of releasing the oil industry from its bondage that would continue to June 30. Why cannot it be done tomorrow, or today?

Mr. REPPERT. That is a very good question, sir. I feel some responsibility to the Office and to the stabilization program. The only way to suspend prices is to see that it is going to be a satisfactory suspension. I do not want to ever feel, for inflationary purposes that something of this kind would have to be done in the future again, or it would to any extent defeat the stabilization program. I can assure you that the things we have in mind in the office, that we have to do between now and the date that we do suspend prices—and I do not say it is June 30, I say it is as soon as we can do it, sir—would, in a sense, be favorable to the industry and to the economy of the country as a whole, and would lead to a successful suspension program.

We certainly want to ascertain whether the refineries are always going to be able to obtain a sufficient supply of crude. I do not know to what extent some statements that we received are true, but I can tell you, in connection with the residual shortage, one or two very large producers wired us and said that the reduction of March allowables had cut down the amount of residual they could produce by something like 40,000 barrels a day. As I say, I do not know that those things are true or whether it is factual or general, but I think we will have to find out something more about those things.

I say to you had we suspended prices or cut out price control on oil during the winter, that someone, including the public and principally industry, would have had to pay pretty high for these residual products. We have gone ahead and increased them just the same, but I think the increases would have been greater.

I might point out certain things that happened in this industry since VJ-day, particularly in the refined product end. They had a very excellent situation during the war, and it dropped right out of

the hat after VJ-day. They no longer had demands for the volume of the high-priced things that they sold for war, like 100-octane gasoline, and their realization dropped down very sharply.

It seems to me we have to be concerned about what is going to take place here when price suspension happens. What is going to happen to crude production? How are refineries going to be able to absorb it? What is going to happen at the consumer level?

The CHAIRMAN. I could illustrate the last point, Mr. Reppert, by the experience that was brought to my attention when I was recently at home, in an altogether different field. A retail dealer in ice cream, who all through the war was obtaining what he called his "mix" from a processor who manufactured the mix, suddenly found himself without the supply which he needed to handle his business, because the Department of Agriculture had lifted food control, or Food Limitation Order No. 8, which was an order requiring processors to continue to distribute their products in the same proportion in which they were distributing it in a certain base year. The lifting of this order opened the door to the processor to use all his mix himself, to cut off his former customers, and so he was moving in with his mix upon the trade of his former customers. The customer came to me for relief of some kind or another, because he said, "If I cannot get this mix, I shall be driven out of business." Then, he was caught on the other horn of the dilemma, which was to make the mix himself, and it would be necessary for him to have an increased supply of sugar. He could not get the increased supply of sugar because of the shortage of sugar supplies, and there was no possibility of awarding him an increased ration without taking it away from somebody else.

All of which, it seems to me, illustrates the point that there is such a thing as lifting these controls too rapidly. I can appreciate the position taken by Mr. Reppert that as long as OPA is in existence and is endeavoring to fight inflation, when it does that it must act in an informed way.

However, we have run considerably beyond the hour of 12 o'clock. The committee will stand in recess until 2:15.

(Whereupon, at 12:20 p. m., a recess was taken until 2:15 p. m., of the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will please come to order.

Mr. Dow, before you make your statement, Captain Franchot would like to amplify the statement he made this morning.

Captain FRANCHOT. Mr. Chairman, in the statement I made this morning, I referred to the fact that the military demands for the first quarter and the second quarter of this year were very much larger than had been anticipated. During the recess, some representatives of the industry asked me if I could be more precise in what that increase was. I have ascertained by telephone that it is in the magnitude of 75 percent above what they anticipated; in fact, it is considerably over 75 percent. Seventy-five percent is a conservative figure.

I have also learned during the recess that several ships of the War Shipping Administration have been held up in port because they have

not been able to get the fuel oil necessary. And there is a rumor, which I can only state as a rumor, that the battleship *Missouri* is being held up because we have not got enough fuel oil to fuel her.

The CHAIRMAN. You have rumors in the Navy as well as elsewhere?

Captain FRANCHOT. Yes, indeed. I am, however, stating it as a rumor because it is not official. I am not told that it is a fact.

Mr. JACOBSEN. Is the *Wyoming* still moving?

Captain FRANCHOT. I do not know. I hope so.

Mr. FELL. Mr. Chairman, we would like permission a little later in the afternoon to answer some of the things that Mr. Reppert presented this morning. We have some witnesses here who are in a position to answer that.

Mr. ENGLAND. Captain, was that the total military requirements that you just mentioned, or just the requirements for the Navy?

Captain FRANCHOT. That is the total military. It is the Army and Navy Petroleum Board that furnished me with the figures. We pool the requirements.

Mr. ENGLAND. That is what I wanted to know.

Captain FRANCHOT. It is 75 percent over and above what was anticipated.

Mr. JACOBSEN. Of course, the point, I believe, Mr. Chairman, is that if the Navy did not know and could not know in advance how much fuel oil they were going to need, much less could industry know, who depend on the Navy for their advice. Consequently, the industry could not in advance tell the OPA, either.

The CHAIRMAN. An interesting question might be how the needs which are not being filled compare with the supplies which we were getting before VJ-day of the same commodities.

Captain FRANCHOT. This does not come within my particular field. But I have sat in on conferences, and I would say that if we had 80 percent of what we were getting in July, we would be all right. Colonel Wright, will you correct me if I make an error? I think if we had 80 percent of what we were getting in July of last year, we would be all right.

Mr. FELL. Would you say, Captain, how many barrels a day your estimates were short of what your demand actually developed into?

Captain FRANCHOT. In the first quarter, they were 47,000 barrels a day short, which we had to take out of strategic stocks, which is a dangerous thing to do. Some of our stocks, I believe, in Panama are down dangerously low.

Colonel WRIGHT. We do not have sufficient oil to cover the bottom of the tanks in Panama.

Captain FRANCHOT. Yes, I know.

Mr. MAJEWSKI. Mr. Chairman, if I may answer your question directly, was your question, what is the difficulty now, if we did it before VJ-day?

The CHAIRMAN. No, I did not ask that. I asked for a comparison of the quantities which are short with the quantities which were supplied before VJ-day.

Mr. MAJEWSKI. The reason for that is that prior to VJ-day——

The CHAIRMAN. The reason for what?

Mr. Majeweski. For the difference in the quantity.

The Chairman. All right. What is the difference? That is what I am trying to find out. Can you tell us?

Captain Franchot. It was about 325,000 barrels a day before VJ-day, and today it is 270,000 barrels.

The Chairman. So that even though your demand is considerably less now than what it was around VJ-day, you are suffering a shortage?

Colonel Wright. That is right.

The Chairman. Now, Mr. Majewski, what is your explanation?

Mr. Majewski. We had rationing then. OPA rationed the civilian population and the industrial user. The production of the various commodities out of the crude oil was controlled by the Petroleum Administration for War. No longer do those controls exist. The only controls we now have are OPA controls, and everybody in the industry seems to be unanimous in declaring here and before the House Banking and Currency Committee that these controls are responsible for this difference in the amounts available seasonally of the various products that are needed by the Navy and by the civilian and industrial consumer.

The Chairman. Now, can you tell the committee what the total production is at present of the commodities of which the Navy is short as compared with the total production at VJ-day?

Mr. Majewski. We are making as much now as we did prior to VJ-day.

The Chairman. Can you put a table in the record showing that for all these various commodities?

Mr. Majewski. We can do that. At 4 o'clock this afternoon some of the members of the industry who are here are going to meet at the API offices to see if we can help out the Navy. I hope you are there, Captain.

Captain Franchot. That does not happen to be one of my functions, Mr. Majewski.

Mr. Majewski. The OPA is invited, if they would like to come. I think I would like to invite them.

The Chairman. I think it is always a good thing to get everybody together.

Colonel Wright. Mr. Chairman, one thing I would like to add to Mr. Majewski's statement is that these products were made during the war regardless of the price or regardless of the cost to the industry. They were ordered to do it by PAW. I am not familiar with it, but you might have lost money on special or residual fuels during the war, because you were ordered to do it. However, now that the fact is that you have to make money on your products, you are refining the products on which you can make the most money. Therefore, you do not have to take the loss as you were forced to during the war.

Mr. Majewski. That is right. We took a loss patriotically during the war; and now in a free economy, with full machinery to manufacture whatever is needed if price controls are removed, why should we still remain patriotic and go broke?

The Chairman. Very well.

Mr. Dow, we will resume with your statement.

STATEMENT OF FAYETTE B. DOW—Resumed

Mr. Dow. The preface to my statement which I read this morning was made necessary by the changed conditions since VJ-day, and it has provoked this discussion which has just taken place. My prepared statement which I have here was put together in very general terms sometime last summer after the call was made upon me to state the situation of the independent refiner.

With respect to this statement, as I have indicated to you personally, I should be very glad to have it incorporated in the record without reading it, if you so prefer, or I will undertake to read it.

The Chairman. I think it is an important matter, and if you will proceed with the reading, Mr. Dow, that will be very helpful.

Mr. Dow. Any discussion of the independent refiner in the oil industry requires a definition of what you mean by "independent."

The obvious and wholly uninformative answer is that you mean any company that is not a "major."

So what do you mean by a "major" oil company?

It depends, first, on when you are talking. At the outset of World War I "independent" meant independent of Standard Oil. When that war broke out in Europe the dissolution of the Standard Oil Co. was only 3 years old. The units into which that company was severed were still grouped in the minds of oil men. Although some other companies had grown to substantial size, these units of Standard Oil were the "majors" of that day. All the rest were "independents."

Those majors had a background of "concentration" in the industry that is of interest in comparison with the figures of today. In 1904, according to the report of the Commissioner of Corporations, the Standard Oil group of companies ran to stills 55,698,000 barrels of crude oil, or 84.2 percent of the total, and the independents 10,470,600 barrels, or 15.8 percent.

Mr. Fraser. Was that Commissioner of Corporations a Federal officer?

Mr. Dow. That is right.

The Chairman. That was Mr. Garfield at that time?

Mr. Dow. I think so.

Mr. England. It was Mr. Herbert Knox Smith.

The Chairman. Did he precede or succeed Mr. Garfield?

Mr. England. He succeeded Mr. Garfield. But the report was made by Mr. Smith, and you will remember, Mr. Chairman, that the Bureau of Corporations was a predecessor of the Federal Trade Commission.

The Chairman. That is right.

Mr. Dow (resuming). Illuminating oil was still a principal product and Standard Oil produced 86.5 percent of it, the independents 13.5 percent.

In 1944, 40 years later, striking changes appear:

The total volume of runs to stills of crude oil has increased from 66,168,600 barrels in 1904 to 1,665,684,000 barrels in 1944. In other words, 25 times what it was in 1904.

Thirteen companies, classed as "independents" at the outset of World War I, have graduated into the ranks of "majors."

The CHAIRMAN. When you say "classed" as independents what do you mean? Do you mean they were classified as independents because they were not Standard, or because they were found by somebody to be independents?

Mr. DOW. I have just said in my opening statement that at that time, 1914, the dissolution was only 3 years old and that the group of companies which constituted the Standard Oil Co. at the time of the dissolution were the majors of that day and that the other companies were considered independents.

The CHAIRMAN. I am prepared to agree with that, Mr. Dow; but is it your own conclusion? It was not found officially by anybody or anything of that kind?

Mr. DOW. It was the understanding in the language of the industry at that time.

The CHAIRMAN. I am merely trying to determine in what sense you use the word "classed" in your statement. I understand now that you want to be understood as meaning that these 13 companies which were regarded by the industry as independents because they were not of the Standard group have now been graduated into the generally accepted class of majors?

Mr. DOW. That is correct.

The table that I am coming to now is quite clear [*infra*, p. 189]. The first column shows the companies by number; the second column, their runs to stills. You add 3 ciphers to get millions. The third column shows the percentage of each company; the fourth is the cumulative runs to stills, and the fifth column is the accumulated percentage of the total, and it shows that the 21 companies ran to stills in 1944, 1,391,028,000 barrels, or 83.51 percent of the total, while all other refiners ran to stills 274,656,000, or 16.49 percent.

The CHAIRMAN. May I ask this? This rating in the percentage of the total was made upon the percentages of 1944, as I understand it?

Mr. DOW. That is right.

The CHAIRMAN. Now, if the classification had been made, let us say, as of 1940, might there have been some difference in the order of these companies?

Mr. DOW. That is possible. I have not examined 1940; I could not be definite about it.

The CHAIRMAN. For example, if you look at "15" and "16", you will see that the difference between those 2 companies is only about 128,000 barrels.

Mr. DOW. I have no doubt there have been some variations and changes.

The CHAIRMAN. So that there might be quite a change in the rank as of the various years.

Mr. DOW. That is quite possible; it is quite probable, I should say.

The CHAIRMAN. All right, sir.

Mr. DOW. I will now resume the statement.

The following table shows the runs to stills of crude oil by 21 major oil companies in 1944 and the percent of the total runs by the group:

Crude oil run to stills in the United States during 1944 by group of oil companies ranked according to percent of total

Company No.	Runs for year		Cumulative runs of group for year	
	Thousand barrels	Percent of total	Thousand barrels	Percent of total
1	214,353	12.87	214,353	12.87
2	136,823	8.21	351,176	21.08
3	125,913	7.56	477,089	28.64
4	115,459	6.93	592,548	35.57
5	103,904	6.24	696,452	41.81
6	101,318	6.08	797,770	47.89
7	95,343	5.72	893,113	53.61
8	89,407	5.37	982,520	58.98
9	54,777	3.29	1,037,297	62.27
10	54,295	3.26	1,091,592	65.53
11	52,960	3.18	1,144,552	68.71
12	41,570	2.50	1,186,122	71.21
13	40,646	2.44	1,226,768	73.65
14	36,627	2.20	1,263,395	75.85
15	27,554	1.65	1,290,949	77.50
16	27,426	1.65	1,318,375	79.15
17	25,598	1.54	1,343,973	80.69
18	19,125	1.15	1,363,098	81.84
19	10,852	.65	1,373,950	82.49
20	10,320	.62	1,384,270	83.11
21	6,758	.40	1,391,028	83.51
Subtotal (21 companies)	1,391,028	83.51		
All others	274,656	16.49		
Total United States	1,665,684	100.00		

NOTE.—See appendix A [*infra*, p. 204] for a further analysis of concentration in the oil industry.

It is of interest to note that the 13 companies, which had no background in Standard Oil and which graduated into the "major" class between the two world wars, ran to stills in 1944:

Thousands of barrels	741,031
Percent of total	44.49

Another look at the picture gives you this comparison in 1944:

	Runs to stills (barrels)	Percent of total
8 "Standard" companies	649,997,000	39.02
13 companies which have graduated from the "independent" to the "major" class since the start of World War I	741,031,000	44.49
Independents today	274,656,000	16.49

These facts are convincing proof of the vigorous competition that has existed in the oil industry, but, remembering the immediate question: "What is an independent refiner?" it may be stated that, as classified above, there are at this time, some 234 independent refining companies [1] with 257 plants having a reported capacity, in terms of crude runs to stills, of 1,129,000 barrels a day. This reported capacity may be overstated but in 1944, as the foregoing table shows, they ran to stills 274,656,000 barrels, or a daily average of 752,482 barrels.

At this point, Mr. Chairman, it might be of interest, although perhaps not of any great significance, to point out that Mr. McClure in his testimony yesterday stated that in 1944 the total stripper well production of the country was 217,041,621 barrels. From those fig-

[1] See appendix B [*infra*, p. 208].

ures, it appears that the aggregate runs to stills of all the independent refineries were some 57,614,000 barrels more than was produced by all of the stripper wells.

His statement also indicated that the number of barrels of production in a year's period which have the protection, let us say, of the subsidy, amounted to approximately 150,000,000 barrels. So that a comparison of the runs to stills of all the independent refiners in 1944 was some 124,000,000 or 125,000,000 barrels in excess of the total production of the stripper wells which had the benefits of the subsidies. I do not attach any significance to that. It is of interest, possibly, because figures are available for 1944 in both cases.

The CHAIRMAN. You have pointed out the extraordinary increase in the volume of oil run to stills between 1904 and 1944, a period of 40 years. That increase, you point out, was from 66,168,600 barrels in 1904 to 1,665,684,000 in 1944.

Would it be possible to have a table prepared showing the distribution of the runs of 1904 as you have shown the distribution among 21 companies of the runs for 1944?

Mr. DOW. I am not sure that that report of the Commissioner of Corporations gives that detail. I will reexamine it, and if it does, I will be glad to submit it for the record. I do not recall at the moment whether it gives a break-down or not.

Mr. ENGLAND. It may be that we have that in our statistics, if it was not included in the report. I will be glad to check that.

The CHAIRMAN. I think, Mr. England, it would be a good thing to check.

Mr. ENGLAND. I will be glad to.

The CHAIRMAN. Yes. I understand there might be a good bit of difficulty in obtaining those figures.

Mr. DOW. Of course, one of the significant facts developed by that table in the first part of my statement is that the very largest company in the industry from the standpoint of runs to stills processed less than 13 percent of the crude oil.

The CHAIRMAN. Yes.

Mr. DOW. To resume my statement:

A necessarily brief historical look at the independent refiners may be helpful at this point. The 234 companies are, in some localities, the survivors of a considerably larger number. Over the years the casualty list has been long and under certain conditions it has been inevitable. To understand that one has only to consider the characteristics of crude oil production, its unpredictableness in flush and settled volumes, its frequent unrelation geographically to the market requirements for its products. When new and large pools have been found many small skimming plants have been built—sometimes by producers, sometimes by interests having no production of their own. In view of the uncertainties of the future of any oil field the objectives have frequently been quick profits rather than security of a long-term investment. Substantial overproduction of crude oil, attendant upon these discoveries, has often demoralized prices and the cost of crude oil to these small plants has been at times unrelated to what the industry knows as the posted price. That, however, is obviously the picture of temporary, transitional stages and such conditions are not the subject of my statement on the independent refiner. While

changed conditions of one kind or another inevitably force some plants to shut down and while a young and growing industry is in the process of approaching maturity one result out of all the forces at work has been the persistence of small refining companies that meet the sound tests of free, competitive enterprise. It is with respect to such companies that my statement to your committee is made.

The CHAIRMAN. You are describing the condition that exists in the petroleum industry's refining branch at the present time as one of free competition?

Mr. DOW. Very definitely.

The CHAIRMAN. That, of course, was the purpose of showing the substantial proportion of the total crude runs which are handled by companies which at the time of World War I had no Standard Oil background?

Mr. DOW. It shows the growth over the years of companies that were relatively small by comparison in the days when one company was the major of its day. It is a clear revelation of the intensity and the results of the competition that has taken place in these years.

The CHAIRMAN. And that is what prompts me to make the comment that this condition of competition which you say exists in the industry and which you commend is apparently the result of the antitrust suit brought by the Department of Justice against the original Standard Oil Co., which compelled its dissolution into several units and brought about the conditions which made it possible for these independents to become majors.

Mr. DOW. Mr. Chairman, you have stated a conclusion which may be entirely sound. In any event, it is a speculative result to say what might have occurred if the antitrust suit had not been brought. But I venture to suggest for your thinking on that subject this: The antitrust suit was brought in 1906. The final decree was entered in 1911. That was a time when the industry was in the beginning, passing from one major product to another, in the beginning of an entirely new era in its development. That is the era of the internal-combustion engine. The developments over that period of time from 1911 down to date were very striking. The demand for gasoline—gasoline principally, and lubricating oil in part—grows very rapidly from year to year. And that growing demand made it possible for companies to grow with the rapidity of the demand itself.

I do not think one can be too certain by any means that a company which controlled 85 percent of the business in 1904 would have controlled 85 percent of the business in 1944, even if the antitrust suit had not been brought. The control of an industry which has reached its maturity and where the demand has flattened out might be one thing; but the industry responded to that tremendous development of the automotive era, and I would not draw your conclusion without qualification.

The CHAIRMAN. Would you quarrel with me if I were to say that if the antitrust suit had not been brought and the company controlling 85 percent had been permitted to continue, then the effort of the companies, which were independents according to your classification, to become majors might have been considerably more difficult than it was?

Mr. Dow. Mr. Chairman, I am sorry I have to answer a question which is so speculative.

The Chairman. You do not have to answer it. There is no compulsion.

Mr. Dow. But I do not know the answer.

The Chairman. I merely asked you if you would quarrel with me if I drew the conclusion.

Mr. Dow. I would not quarrel with you, Mr. Chairman, about anything. [Laughter.]

Let me put it this way: Knowing the type of men who were behind these companies and knowing their opportunities, one of which was not only to produce crude oil and to build refineries to refine it but to own and operate a pipe line which I think has been one of the greatest factors in promoting the competition in the industry, when I think of those men, what they did, it is my own judgment that their companies would be pretty close to where they are today if the situation from an antitrust suit viewpoint had been let alone. I am also not sure that these companies which have grown out of Standard Oil have not been still more on their toes because of the competition with each other which has been brought about.

Now, all this is speculative, and I do not think I am contributing anything. I would personally hesitate in drawing a conclusion that this has come about because of the antitrust laws. I doubt it.

The Chairman. I confess I am just a little confused now by your answers, because your testimony is apparently directed toward demonstrating that competition exists in the field. That means that you approve the existence of competition. You think it is good for our economy; and yet you leave me in doubt as to whether or not you believe that the antitrust law should have been invoked when there clearly was no competition.

Mr. Dow. I did not say that at all, Mr. Chairman.

The Chairman. I say you leave me in doubt. I want to give you a chance to clear it up.

Mr. Dow. I am quite sure that in dealing with so many assumptions here, I cannot make any important contribution to this line of discussion. I have a feeling, as I said, that the forces at work, the opportunity made possible by this new era in transportation, are in large part responsible for the competition which has developed. This competition is between the majors, it is between the majors and the independents, it is between the independents, and it is between the companies that formerly were in the Standard Oil family.

The Chairman. Yet as a result of my questions and our little colloquy here I am sure you do not want the record to give anybody any reason to feel that you, coming before this committee as a spokesman for the independent refiner, believe that the antitrust law which prohibits a monopoly, is not a good law?

Mr. Dow. Not at all, sir.

The Chairman. Then the record is clear.

Mr. Dow. Of course, that is a different question from the one you raised.

The Chairman. I grant you that. I gather you did not want to leave any idea of that.

Mr. Dow. No, sir; I do not. [Resuming:]

There are major oil companies whose executives frequently and vigorously assert that their companies are "independent" and their statement is true in the sense that they conduct their own business in their own way, and do not follow, unless they choose to, any pattern set by their competitors. But that is not the widely understood definition. "Independent," as the oil industry understands the word, means a company that is relatively small and largely unintegrated. The "majors" are to a substantial degree integrated—that is, they are engaged in production, refining, transportation, and marketing. Some of the independents have a partial degree of integration. But in the usual case the independent refiner buys the greater part of his crude oil from independent producers, refines it, and sells it to independent marketers through whom it reaches the consuming public. There is, however, no question on the part of the independent refiners of the value of integration—either in service to the public or in the progressive growth of an oil company. Integration, in its balanced operations, its efficiencies and its economies, is a goal of small as well as large oil companies and, in notable instances, explains the growth from the independent of but a few years ago to the major of today.

SOURCES OF MY STATEMENTS REGARDING THE INDEPENDENT REFINER

I am not in the oil-refining business. My experience has been that of counsel for groups of companies, both refiners and producers. With the feeling that my statement for this committee, in the interest of reasonable accuracy, should reflect the views of experienced refiners rather than my own, I wrote letters to a considerable number of executives of independent refining companies and to associations which represent such companies saying, in substance, that I had been called upon to prepare this statement and asking them to write me a letter, or send me a memorandum, embodying their views of what should be contained in a statement which deals with the independent refiner and his place in the oil industry. The statement which I am submitting is therefore that of a reporter and has been prepared in the light of the replies received.

To one who has observed the changes in the oil industry over a considerable period of years and has read the still earlier history, there is a significant fact which is revealed in this correspondence. It is that the antagonisms, the ill feeling, indeed the bitterness, which were common among the independents of 40 years ago, against the single major oil company of that day, no longer appear. The competition of today is intensely keen; the going is hard at times for the independents, to attain success or even to survive; there are practices, chiefly in the marketing field, which some independents regard as uneconomic or unlawful, or both. But the record indicates that the competition, although tough, has been progressively cleaner. There is no charge of malice. No one has written me suggesting that the executives of the major oil companies are sitting up nights planning evil ways of putting the independents out of business.

Yet there runs through the correspondence a note of apprenhension. I shall try to interpret and summarize it briefly. It concerns the survival and the success of the independent. It says in effect that the independent embodies the spirit and is the substance of free enter-

prise. Without questioning the genuineness of the intensity of the competition that exists between the majors, they are, nevertheless, classed as a group in his thinking. If competitive conditions or practices between the very large enterprises, on the one hand, and small business on the other make it impossible for the independent to start, to grow, to live, and to prosper, then the Government will be asked to take some action, which the independents would prefer to avoid. As one correspondent puts it, "If the oil industry is to remain a competitive, free-enterprise industry, there must be strong, independent units in production, refining, and marketing. The independent refiner is a vital link in this chain of independence and usually has greater financial investment in the industry than individual independent operators either in production or marketing. He must have access to a source of crude supply as well as a market for his products."

The observer just quoted and others seem to appreciate that from a legal standpoint it may seem difficult to reconcile 21 or more intensely competitive oil companies with a charge of restraint of competition, but they prophesy that the Government will not fail to take remedial measures in any industry in which small, efficient enterprises cannot survive. A friendly but very definite apprehension and warning emphasize that point.

You have, then, a group of refining companies that the industry describes as independents, largely unintegrated, individually small, but running to stills, in the aggregate, one-sixth of the crude oil, competing vigorously for their crude oil and their markets with powerful, integrated companies that have become institutions with respect to ownership, extent of operations, and financial strength. What are the contributions of this group of independents to the public and to the industry?

CONTRIBUTIONS OF INDEPENDENT REFINERIES IN THE WAR EFFORT

The question was asked while World War II was being fought, when the refining industry was processing all of the crude oil it could get and almost to the limit of its refining capacity. Every independent plant has been needed for the total war effort, in which enormous quantities of oil have been consumed by the military forces and the requirements of rationed civilian supply have been met. It has been publicly stated that the war requirements in the closing months of the war in Europe were 250,000 barrels a day in excess of current production and this additional quantity was supplied only from stocks that had been built up for those final, all-out military efforts. But not in quantity alone have the products of these independents been vitally needed. No one should assume, they remind us, that only the majors have produced the special types of products required by the war. On the contrary, in some of these independent refineries were manufactured substantial quantities of 100-octane and 91-octane aviation gasoline, and of their components which were shipped to other refineries for final blending; substantial quantities also of "80-all-purpose" gasoline, Navy Diesel and Navy-special fuel oils. A conspicuous contribution of a group of these independents has been the supply of a very large, in fact an absolutely indispensable, part of the highest grade aviation lubricants.

PEACETIME CHARACTERISTICS AND PROBLEMS OF THE INDEPENDENT REFINERS

There are few generalizations regarding the independent refiners—as to their origins, their locations, their types of equipment, their products, their methods of marketing—that will hold true of all, or any considerable number, of them. An analysis of those subjects would require a survey, region by region, with more detail than the limits of this statement permit.

I shall briefly outline some of the characteristics and problems that appear in the correspondence to which I have referred.

(*a*) *Ownership and management.*—In general the small refineries are built with capital supplied by a relatively few men who have a part in the management, or are closely identified with it. This is said to have advantages and disadvantages. It has provided close supervision of personnel, of operations and of costs; quick changes of policy to meet changing conditions. These founders and owners, in many cases, have brought talented and well-trained younger men into the organization, and, for the manufacture of special products, have installed new facilities to meet the unusual rapidity of obsolescence in the art. There are many instances of substantial success among independent refiners. But personal and family ownership of properties is vulnerable just as life itself is. Second generations do not always carry on and in cases where they could do so, the severity of estate taxes may not permit it. This accelerates the process of sales and consolidations of properties. It promotes the growth of the large enterprises in many of which ownership and management are substantially unrelated, in which ownership is lodged in thousands of individuals, evidenced by listed securities, and in which the life tenure of any individual, whether owner or manager, is of relatively little consequence. In the oil industry the acquisition of refining companies by the majors is much less frequent than of producing and marketing properties but the same factors are at work and they work most frequently in the one direction.

The CHAIRMAN. May I interrupt you, Mr. Dow, to say that I think this statement you have just made is really one of the most significant contributions that has been made to these hearings. It is not at all unlikely that the distinction to which you point here between the refinery which is owned and managed by the same persons and the refinery in which there has been a substantial separation of the function of ownership and the function of management is one of the most important distinctions to be drawn in our analysis of present-time economic conditions. When the owner manages, and there is that union in one person of both functions, we have our traditional system of ownership and operation. But when the owner no longer manages, but delegates to experts the responsibility for management, then we have an utterly different system. And this delegation of managerial power which causes so much criticism in Government when Congress delegates power, is actually just an imitation of what has been done in some of the big units to which you refer where, to use your own words, ownership and management are substantially unrelated.

In such units the stockholders, not having the time or the interest, because their ownership is relatively small, to undertake the responsi-

bilities of management, delegate it to a managerial group who, in most instances, are only salaried employees, just as the members of a commission appointed by the Government are salaried employees of the Government. I think it is a distinction to which not enough attention is given in the consideration of our problems, and I am very glad that you have brought it up.

Mr. Dow. I did not write these lines because of a desire to throw doubt upon the soundness of delegated authority. I would say, on the contrary, that the delegation of authority by stockholders to executives in a modern large corporation results in a sound handling of the properties.

The thing that underlies these lines running through my mind is the apparent necessary lack of continuity of ownership in a small enterprise. If three men, for example, go into the oil-marketing business as young men together and develop a business of moderate yet fairly substantial proportions as they go along, and most of their capital is in that business, when they get to middle life they are faced with the problem of what to do with their properties, because they know that the estate taxes are going to be very high.

The Chairman. Yes; I think you brought that out very clearly. And that promotes the sale to the larger unit and promotes the growth of the larger unit; that is what you have just said.

Mr. Dow. Then there is another thing that is related to it, and that is this: In order to build up a business it is necessary to earn money and to build up capital and to lay aside from year to year additions to capital out of earnings. Now, the established units in any industry as of today were built up under tax rates very much lower than prevail today, and that are likely to prevail for any time in the future that we can foresee. And as will be developed later in this paper, the independents are quite concerned about that in connection with the necessity that they have of adding to their capital out of earnings.

The Chairman. I am not attempting to draw any conclusions here. I am just emphasizing the facts that you have brought out. And, Mr. Dow, I regret very much, as I told you in advance, that it is necessary for me to go to a meeting of the Committee on Military Affairs to which the Secretary of War and the Secretary of the Navy have been called. I am sorry not to be able to sit down and enjoy the rest of your paper as much as I have enjoyed listening to the first part of it.

Mr. Dow. I will be very glad to submit it without reading anything further.

The Chairman. Senator Moore will be here.

Senator Moore. I will be very glad to listen to it, Mr. Dow, so that the others may have the opportunity.

(Senator Moore now presiding.)

Senator Moore. There is just one question I thought I got from your deductions here, that with your system of taxation and policy of taxation as applied to these independent units it will result in a reduction of competition in business, because many of these businesses have to go out of business; many of them have to sell. They may be confiscated by the estate taxes and other taxes that are imposed. Is that right?

Mr. Dow. That is right. If a man has built up over his lifetime an interest in the business out of which the estate taxes would take a

third or a half on his death, he cannot get Uncle Sam to take a third or a half of the business institution in payment of taxes.

Senator MOORE. That is right.

Mr. DOW. If he has not additional capital, he is forced frequently to sell his properties; and if he has additional capital, he is in a still higher estate-tax bracket, and still may have to liquidate.

Senator MOORE. Thank you.

Mr. DOW. I will now resume the statement.

(*b*) *Location.*—Although there are important exceptions, the refineries of the independents have been located more generally in the oil-producing areas than those of the majors. For this reason their crude oil supply is nearer to their plants but their markets are more distant. This tends to confine their sources of crude oil supply to particular fields, of limited life, as all fields are, and to limit their product distribution by transportation costs. In California, however, the plants of the independent refiners are located relatively close to production and markets but their crude oil is received by tank trucks at transportation costs substantially greater than those of the majors who receive their crude oil by pipe line. The independent refiners on the Gulf coast are located on deep water, as the plants of the majors are. They receive their crude oil by pipe line or barge, rely very little on local distribution of their products, preferring to seek outlets in the East Coast States and the world markets. But despite important exceptions such as these I believe the plants of most of the independent refiners are located relatively close to the sources of their crude oil and are far more dependent, relatively, upon the railroads than are the majors, for access to their markets. This is indicated by the many petroleum rate cases which have been brought to the Interstate Commerce Commission for decision. In this connection price realization at the refinery is affected by distribution costs, one of the largest items being the cost of transportation, in which distance is an important factor. Where sales are made within adjacent areas there is frequently a freight advantage to the local plant. The net back may be adversely affected if distribution over too large a territory is attempted. The operators of the large refineries which are located more generally near cities of large population say that their refining capacity is so much greater than their share of the local market that they too must ship their products considerable distances in order to sell their products, thus reducing their net back as in the case of the refiners whose plants are located nearer the sources of crude oil supply.

This matter of refinery location is very important. A study of the growth of refinery capacity in relation to available forms of transportation shows that for two decades or more substantially all the aggregate increase in refinery capacity has been made in locations served by pipe lines and water facilities and, conversely, that the total capacity of the land-locked plants had remained about what it was. Of course there are some areas where the choice of deep-water facilities is not available but the combination of pipe lines and water is undoubtedly a very important factor as affecting the growth and life-tenure of a refinery. The wise location of efficient refineries and the use of the oil industry's distinctive and economical transportation facilities have unquestionably contributed very largely to the substantial reductions which have been made in the prices of petroleum products to the public.

Mr. FRASER. Have you thought anything about the location of refineries in connection with national defense?

Mr. DOW. You mean the scattering of refineries so as not to have a single area menaced?

Mr. FRASER. Yes.

Mr. DOW. No, I had not, sir. It might well be a very important consideration.

(*c*) *Crude-oil supply.*—Independent refiners quite generally stress the problem of crude-oil supply and their relation to independent producers. The chart in appendix A [*infra*, p. 206] shows that there is a substantially smaller degree of concentration in production than in refining. This is no doubt due to the greater capital requirements involved in refining. In any event the independent refiners buy the greater part of their crude oil from the independent producers and, except in unusual cases, pay the full posted price, at times plus a premium. These premiums have been less frequent in recent years prior to Pearl Harbor when the supply of crude oil has been ample in relation to demand, but when paid they have often resulted in an advance in the posted price. Also the independent refiners provide in many cases the only market that the producers have. They cite instances where for one reason or another—limited volume of production, its location, the quality of the crude oil or its price—the majors have discontinued purchases. In such cases independent refiners have bought the crude oil or the producers have built a refinery in order to dispose of it in the form of its products. And the independent refiners further stress the fact that although they normally pay the full posted price, or more, for the crude oil, they rarely if ever can sell their products at higher prices than the majors receive for their highly advertised products, marketed to the consumers, as those products frequently are, under conditions of elaborate and costly service.

During the war the importance of a more adequate supply of crude oil for the small refiners has been officially recognized. Through efforts of committees organized under the Petroleum Administrator for War crude oil has been allocated to some of these companies which they would not otherwise have been able to secure. Furthermore an order with respect to Government royalty oil and having the same purposes was executed by the Secretary of the Interior as recently as May 25, 1945. It reads, in part:

TITLE 30—MINERAL RESOURCES

CHAPTER II—GEOLOGICAL SURVEY

DEPARTMENT OF THE INTERIOR

PART 221—OIL AND GAS OPERATING REGULATIONS

Government royalty oil

In the interest of encouraging and fostering small business enterprise in the oil industry, it is essential that adequate supplies of crude oil be made available to refiners who do not have access to sufficient supplies of crude oil to assure continued operation of refineries engaged in providing petroleum products for military or necessary civilian uses. To that end, it will be the policy of the Department of the Interior, upon a satisfactory showing in accordance with the procedure hereinafter prescribed and after reasonable notice to its lessees, to take its royalty oil in kind pursuant to section 36 of the Oil and Gas Leasing Act of February 25, 1920 (41 Stat. 451, 30 U. S. C. sec. 192).

1. Refiners unable to purchase in the open market an adequate supply of crude oil may file an application with the Secretary of the Interior. * * *

* * * * * * *

3. If, after considering the recommendations of the appropriate agencies of the Department and of the Petroleum Administration for War, the Department elects to take its royalty crude oil in kind, the oil will be advertised for sale at not less than the market price or at the maximum price established or authorized by the Office of Price Administration if it is greater. Where two or more identical bids are received for the same crude oil, the Secretary will give due consideration to the factors outlined in paragraph 1 and award the oil to such bidder as he determines would best serve the public interest. * * *

My correspondence also indicates that the independent refiners share the apprehension of the independent producers of the maladjustments that may follow if imports of crude oil increase. They foresee rising costs as domestic production continues its normal history of transition from flush fields to stripper wells. They assume that the imports of crude oil will be to refineries located mainly on deep water, with products moving to interior points by pipe line. Anticipating that this will mean "cheap crude" for the seaboard refiners they foresee disturbances to domestic price structures which may increase their difficulties of competing with the larger and more advantageously located companies.

The concern which the independent refiners show as to an adequate supply of crude oil for the future means, of course, that they recognize the soundness of the position taken by the independent producers in this hearing as to the need of an adequate price for the crude oil itself. The producer's price is the refiner's cost, but the refiners do not expect the producers to continue to produce unless they can secure their costs, including replacement costs, plus a fair profit. The greatest harm that could come to the independent refiners would be the abandonment of the thousands of smaller wells which, for many of them, are their present and future source of a crude-oil supply. I have often heard independent refiners say that they "never made any money running cheap crude oil." The effect of cheap crude oil is to demoralize the whole price structure, leaving few operations—whether producing, refining, or marketing—a fair return. Overproduction and the pressure of shut-in production in the prewar years had their inevitable effect before Pearl Harbor in a price structure, for crude oil and its products, that was very low, as the Government statistics show, when compared with other commodities or by any other recognized test. This price structure has been held by Government control too rigidly in view of increasing costs of wages, of maintenance, and of necessary improvements. The effect of this rigid control is likely to be seriously felt in many ways in the future. An adequate price for crude oil, with corresponding levels in the prices of petroleum products under which the independent refiners can operate at a profit, is essential if the independent refiners and the other branches of the industry are to be able to continue their important functions.

Mr. Fraser. When you say the effect of this rigid control is likely to be seriously felt in many ways in the future, you are assuming, I take it, that even though price control might not continue very much longer, the effects of price control to date will have repercussions in the future for a long time?

Mr. Dow. That is right. You cannot do an injury to a business over a period of several years and stop the effects of the injury at

the point where you lift your controls. That will necessarily continue, and that is illustrated by the case which I gave this morning of those tremendous freight rate increases which became effective 2 years too late, and which deprived the Government of revenue, the railroads of revenue, at a time when they could be borne, and which became effective at the time when they would not be wisely maintained because of falling prices in the products which they carried.

I will now continue with the statement.

(*d*) *Research and specialization.*—The advantages of large concentrations of capital in the field of research are of course well understood as is the fact that research on a large scale is beyond the reach of the typical independent refinery. Yet not a few of the independents stress their success in specialization and there is a growing feeling that their future will be strengthened by further efforts in that direction. Some of them manufacture types of products not generally produced, and for which they have found special markets.

There are noteworthy instances of successful cooperation among independents in research. Drilling for oil started in Pennsylvania and the fields producing Pennsylvania grade crude oil, with its distinctive and valuable content of lubricants, are the oldest in point of development. It is natural that the first efforts in cooperation should have been made among independent refiners and producers of that region. A successful cooperative refining laboratory has been maintained for some years at Pennsylvania State College and more recently cooperative programs for research in many producers' problems, such as secondary recovery, have gotten under way. There is a growing appreciation among the States of the importance of their mineral resources and in consequence the States are beginning to cooperate with industry in petroleum research, particularly in production. The Federal Government through the Bureau of Mines has been doing this for some years, with interest in it definitely increasing.

Several refiners' associations have, for a long period of years, carried on very useful cooperative efforts in the testing of oils and standardization of testing methods.

(*e*) *Employment.*—All of the independent refiners stress their value in the matter of employment. Their plants, as we have noted, are generally more remote from the large centers of population than are those of the majors. When thus located in the smaller communities their share of the local employment is frequently large and their successful operation is of proportionate importance to those communities.

Mr. FRASER. May I interrupt?

Mr. DOW. Yes, sir.

Mr. FRASER. I would like to inquire about what percentage of the costs of the refiner is labor cost.

Mr. DOW. I am sorry, I cannot give you that.

Mr. FRASER. It would be rather small, would it not?

Mr. DOW. It is smaller than in some other industries, where manual labor, of course, is employed, as in the automotive industry; but it is still a considerable item, and one of increasing importance because of the very substantial wage increases that have been put into effect and are still being put into effect. [Resuming:]

(*f*) *Marketing.*—This study is not intended to deal with the many problems of petroleum marketing. However, any company which

sells its product, whether f. o. b. the refinery or to the final consumer, is engaged in marketing. For that reason the independent refiners, in discussing their problems, refer to that subject and in some groups it is stressed as of very primary importance. It is their position that factors of size and location have a direct bearing on the marketing problems of the independent refiner. His relatively small crude throughput limits the size of the area and the number of areas that he can serve with his light-oil products—gasoline, kerosene, and fuel oils—even when he operates under transportation conditions as favorable as enjoyed by his major competitors. Where he must depend on railroad or highway transport, he is precluded competitively from distributing his light-oil products except within relatively limited distances from his refinery. This lack of freedom in choosing his marketing areas increases the relative importance to him of being able to sell his products through the channels of distribution both wholesale and retail that exist in his circumscribed marketing territory.

A number of independent refiners specialize because of the characteristics of the crude which they refine, in lubricating oils. These refiners have an additional problem as to markets due to the fact that they must have a Nation-wide market and also foreign markets if they are to dispose of their production of high-quality lubricants. These lubricating oils must be sold almost entirely through wholesalers, retailers, and exporters who do not handle the light-oil products of these lubricating oil refiners, and access to wide markets is particularly vital to them.

(*g*) *Earnings and taxation.*—In appendix A [*infra*, p. 204] are quoted certain of the findings of a recent study of 30 large oil companies whose stock is listed on the leading exchanges, and 21 of which are both producers and refiners of crude oil. It covers a 9-year period, 1934–42. It includes 4 companies which produce more crude oil than their refinery requirements and 17 companies which produce less than their refinery requirements. All 21 companies are large producers of crude oil.

With respect to that study it should be noted at once that the 21 companies are a group from among the largest and strongest companies in the oil business. Their earnings are by no means typical or representative of the thousands of small enterprises that are engaged in some phase of the oil business—production, refining, or marketing. I am using the findings of the study because of the light which it throws upon the comparative sources of income in relation to investment.

The study shows that in the 9-year period, 1934–42, nine solely producing companies earned 8.8 percent on invested capital, 4 companies with production in excess of refinery requirements earned 8.2 percent, while 17 companies with production less than refinery requirements earned 6.2 percent. This trend would indicate that the still less favorable position is that of the refining companies which have little or no production but must buy their crude oil at the posted price or at a premium.

Furthermore, the other table in exhibit A [*infra*, p. 205] shows that in the 9-year period the rate of return on invested capital of the 30 oil companies averaged only 6.4 percent as contrasted with 8.8 percent earned on the average by over 1,100 manufacturing companies. The conclusion from this is not only that the oil industry's return on invest-

ment is low, actually and comparatively, but that there may be less financial elbow room for its more marginal enterprises than is true in other industries.

Integration appears to have the advantage of tempering the effects of changes that, in normal times, take place in the price structures. These changes may make production, or refining, or marketing more remunerative than it was before the change, or make it less remunerative. Integration absorbs the shocks as well as the gains and the integrated companies usually come to the end of the year with a profit, although it may be low in relation to investment. Because of the fluctuations of supply in relation to demand that are characteristic of the oil business, the price structures are volatile, and while they work against the large company as well as the small, they frequently leave the unintegrated refiner "in the red." At other times he may make a good profit and when he does Government lays upon him the heavy hand of taxation. Small business cannot readily build up capital and grow under these circumstances. Consequently relief from excessive taxation is imperative.

In the field of taxation the Federal Government can properly and effectively aid small business. Everyone knows that the unbelievably staggering costs of World War II must be paid for by very high taxes for many years to come. There is recognition that this burden must be borne and that at best it will fall heavily upon everyone. What is important is to determine what is the "fair share" of each business enterprise or individual taxpayer.

Among the comments on this phase which my correspondence discloses are the following:

The tax inequalities now existing between the usual business corporation and the "cooperatives" should be removed.

Senator Moore. If you will pardon me here, Mr. Dow, Senator O'Mahoney asked me to call attention to the fact that the cooperatives are smarting quite keenly under what is termed "an attack against the cooperatives." And they have asked for permission to come here and be heard, which opportunity, of course, will be granted.

Mr. Dow. I see. [Resuming:]

Recognition should be given to the fact that what might be considered big business in one industry may be very small business in another. In the oil industry a typical independent refining company may have an investment of 2 or 4 or 6 million dollars, or more than that, but it would still be a small enterprise, a hazardous and marginal enterprise, compared with its major competitors. Under the present tax law the Federal Government will take 38 percent of net taxable corporate incomes of $50,000 or more regardless of the size of the various enterprises, their need of new capital, or, if estimated in terms of assured continuous earning power, of their ability to pay. So it is suggested that consideration be given to increasing the level of net taxable incomes at which the maximum rate applies and of modifying the rates of taxation on corporate incomes below that level.

In this connection there is also criticism of the system of double taxation—that is, taxation first of corporate earnings and again upon those earnings when distributed to stockholders—especially as related to small business. The point made here is that the small enterprises are the ventures of a comparatively few individuals whereas the large corporations have thousands of stockholders with an average

ownership of relatively few shares. When the small corporation declares a dividend it is likely to place the few owners of the enterprise in a high surtax bracket, and for that reason, it is said, the total "take" of the Government in the two stages of taxation of the small enterprise is relatively greater than in the case of the large corporation.

Mr. FRASER. Then, when death comes, there is another take.

Mr. DOW. That is right, and it is a real one. [Resuming:]

In the foregoing paragraphs I have undertaken to summarize the views which the independent refiners have expressed to me in correspondence and conference. It is their story. I have acted, as I said, as a reporter and not as one having had personal experience as a refiner.

Certainly no one who knows the oil industry can doubt the genuineness or intensity of the competition that exists. Nor can anyone question the fact that between the years immediately preceding World War I and the present time, enterprises that were small business in their origins have grown to be very large companies which the oil industry describes, without stigma but as indicative of their size and economic strength, as "the majors." This fact recalls a recent statement of the Secretary of Commerce that "from the tiny seedlings of small business our mightiest industrial giants have developed." He goes on to say:

> Small business is a primary source of initiative and new ideas, energetically striving to meet new needs and forcing alertness on all the rest of the industrial and distributive system. It is the basis for democracy in industry, by providing alternatives through which independently minded men can escape from economic autocracy.
>
> Small business is a necessity upon which the life of the free-enterprise system depends. Opportunity and competition are the marks of health in our economy—the symbols by which a man evaluates both his chance to rise to a position of prominence and his ability to obtain on an equitable basis the things his family needs. Where there is no room for new enterprise, there is no room for free enterprise.

The last sentence of that quotation sounds, at first, like a bit of indulgence in apt phraseology. But on second thought it seems to mean what Senator O'Mahoney, chairman of your committee, means when he says, "Big business means big government."

The independent refiners do not want big government. Like most freedom-loving Americans, they are apprehensive of the growth of government and are restive under its controls except in such an emergency as the war created. But, if I understand them correctly, they are concerned, as they look into the future, about a number of problems. Among these are a crude-oil supply, feeling that, because of their own lack of integration, the reserves, as drawn upon, may go into other channels; and, for much the same reason, they are concerned about assurance of market outlets open to them in sufficient measure, under conditions that are characterized by good business and fair dealing. They want government to be operated economically and they know whether government is big or little, that it must be supported. But they feel that taxation should be tempered in accordance with ability to pay and should take into account the need for building up capital through profits that can be plowed back into the business. On the subject of profits they would agree with Henry Ford 2d in his recent statement:

> It has become somewhat unfashionable to speak of making profits, as if it were an un-American notion. But only out of profits can any established busi-

ness get the funds for research for better things and better ways of doing things. Only out of profits can come the capital for new tools, new plants, new techniques in production. Only out of profits can come higher wages, improved working conditions, and new opportunities for employees.

The profits of independent refiners must come from refining, a manufacturing operation. It seems clear that for the industry as a whole the profit margin in refining, which in effect means the return on investment in refining equipment, is very low. This explains the contentions, frequently made by independents, in marketing perhaps even more than in refining, that if they are to compete successfully with the majors, each branch of the industry—production, refining, transportation, and marketing—should pay its own way. Or, stated in another form, if the profits in one operation are used to absorb losses in another then those losses tend to make it impossible for independents to stay in business in the branch of the industry that is operating at a loss.

And finally, while it is true that the industrial giants of the industry have grown from the tiny seedlings of small business, to repeat the Secretary's metaphor, it does not by any means follow that an independent enterprise must be considered unsuccessful unless it grows to be a major. There are small refineries that have been in business over a large part of the history of the industry and that have been, and are, successful. They of course have had the advantage of the rapid growth of the oil industry in years when demand for gasoline and other products was pressing for increases in refining capacity. At present and for the near future refining capacity is and will be in excess of anticipated requirements. This indicates reduced profit margins which are likely to depress the small enterprises—until 2 or 3 years of the manufacture of automobiles and other vehicles of transportation, uninterrupted by strikes, have restored the upward curves of peacetime demand.

The independent refiners have been gratified to note the concern expressed by the legislative and executive branches of Government in recent years with respect to the welfare of small business. They regard this concern as an expression of interest in free enterprise. This hearing is but one of a number of manifestations of that interest and for that reason I am sure that the independent refiners are grateful to your committee for this opportunity to respond to your request for information, however inadequate they may feel that my response has been.

(The appendixes to the statement of Mr. Dow are as follows:)

Appendix A. Extracts from Sources, Dispositions, and Characteristics of the Capital Employed by 30 Oil Companies During the 9-Year Period, 1934–42

(By Pogue and Coqueron, The Chase National Bank, New York)

INTRODUCTION

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The 30 oil companies covered by this study include 21 companies which both produce and refine crude oil. They are listed on the leading stock exchanges and for the purpose of analysis the 21 companies are grouped as follows: 4 companies[1] with production averaging in excess of refinery requirements, and

[1] Continental Oil Co., Ohio Oil Co., Phillips Petroleum Co., and Skelly Oil Co.

17 companies[1] with refinery throughput in excess of crude production.

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PRODUCTIVITY OF CAPITAL

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TABLE 7.—*Percent return on invested capital by 21 oil companies which both produce and refine crude oil during the 9-year period 1934–42*

4 companies with production in excess of refinery requirements			17 companies with production less than refinery requirements		
Average invested capital	Net income	Return	Average invested capital	Net income	Return
Million dollars	*Million dollars*	*Percent*	*Million dollars*	*Million dollars*	*Percent*
401	17	4.2	4,925	134	2.7
394	30	7.7	4,772	214	4.5
398	40	10.1	4,902	358	7.3
421	56	13.4	5,170	501	9.7
426	21	5.0	5,357	264	4.9
422	20	4.7	5,412	290	5.4
423	28	6.6	5,437	340	6.3
429	50	11.5	5,467	465	8.5
443	46	10.4	5,573	344	6.2
417	34	8.2	5,224	324	6.2

NOTES

Invested capital represents the average of the book value of outstanding preferred and common stocks and consolidated surplus accounts at the beginning and end of each year.

Net income is after deducting all charges and represents earnings available for preferred and common dividends.

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The rate of return on invested capital based on earnings for the 30 oil companies, as compared with a large group of manufacturing enterprises, shows a substantially lower rate for the former, as indicated in the following table:

Rate of return on invested capital of 30 oil companies versus group of over 1,100 manufacturing companies by years, 1934–42

Year	30 oil companies	Over 1,100 manufacturing companies *	Difference
	Percent	*Percent*	*Percent*
1934	2.9	4.3	−1.4
1935	4.8	6.7	−1.9
1936	7.6	10.4	−2.8
1937	10.0	10.8	−.8
1938	5.1	4.8	+.3
1939	5.4	8.5	−3.1
1940	6.3	10.3	−4.0
1941	8.8	12.4	−3.6
1942	6.6	10.1	−3.5
Average	6.4	8.8	−2.4

* Compiled by The National City Bank.

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[1] Atlantic Refining Co., Gulf Oil Corp., Lion Oil Refining Co., Mid-Continent Petroleum Corp., Pure Oil Co., Richfield Oil Corp., Shell Union Oil Corp., Sinclair Oil Corp., Socony-Vacuum Oil Co., Standard Oil Co. of California, Standard Oil Co. (Indiana), Standard Oil Co. (New Jersey), Standard Oil Co. (Ohio), Sun Oil Co., Texas Co., Tide Water Associated Oil Co., and Union Oil Co. of California.

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CONCENTRATION OF CAPITAL

The concentration of capital amongst corporate units in 1942 may be measured by arranging the companies in descending order of size in respect to net crude oil production and runs to stills in the United States. Figure 11 shows the number of companies required to represent any given proportion of the Nation's total production and refinery throughput.

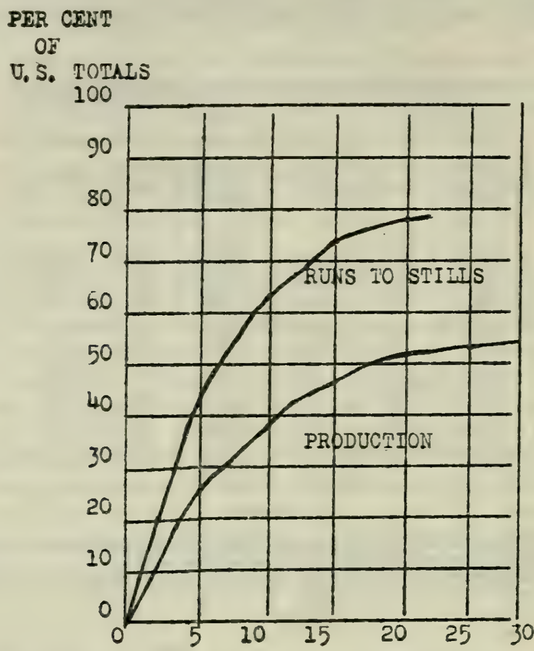

FIGURE 11.—Concentration of production and refining in the United States in 1942; cumulative percentage of national totals represented by members of the group of 30 oil companies. This exhibit reveals a relatively low degree of concentration for a highly technological industry.

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For example, as regards crude oil production, the 5 largest companies produced 25.0 percent of the total; the 10 largest 38.7 percent; the 15 largest, 47.3 percent; and the 20 largest, 51.4 percent. The next 10 raise the proportion to only 53.8 percent. In respect to runs to stills, the 5 largest processed 41.3 percent of the national total; the 10 largest, 63.3 percent; the 15 largest, 73.7 percent; and the 20 largest, 78.5 percent. The latter figures reflect greater concentration in refining than in production; but no excessive degree of concentration is apparent in either division. On the contrary, as compared with other highly technological, mass-production industries, an exceptional lack of capital concentration is indicated for the petroleum industry.

The trend of concentration of capital is also a significant economic factor and table 12 and figure 12 show the data on this point.

CONCLUSIONS

The analysis of the combined statements of a large and representative sample of the American petroleum industry, covering a period of 9 years extending from 1934 through 1942, not only constitutes a record useful for comparative purposes, but also serves as a basis for a number of broad generalizations, as follows:

1. The petroleum industry generates the capital needed for its expansion almost entirely from its own operations and is therefore a singularly self-contained economic unit.

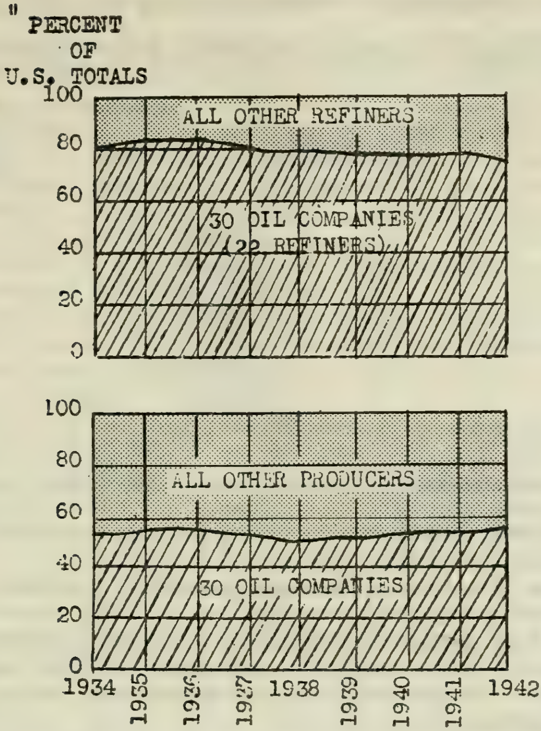

FIGURE 12.—Relation of the producing and refining operations of the group of 30 oil companies to the totals for the United States, showing the importance of the sample studied. The chart also shows the trend of concentration in production and refining—sidewise for production and slightly downward for refining.

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6. In 1942, Government funds entered the industry for the first time in substantial amounts and were utilized for the provision of war facilities needed for emergency use.

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8. The rate of return on invested capital for the group averaged 6.4 percent for the period, compared with an average of 8.8 percent for a group of over 1,100 manufacturing companies. Integrated oil companies showed a lower rate of return than producing companies.

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10. The combined net investment in properties, plant, and equipment of the group at December 31, 1942, was distributed in the divisions of the business as follows: production, 45.6 percent; transportation, 13.7 percent; refining, 19.8 percent; marketing, 18.7 percent; and all other, 2.2 percent.

11. The concentration of capital in large units is less than in many highly technological industries. The group in 1942 produced 54 percent and refined 79 percent of the totals for the country. Eighteen companies accounted for half of the Nation's crude oil production; and seven companies, for half of its refinery throughput."

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APPENDIX B. INDEPENDENT REFINERS AND THEIR LOCATION BY STATES

The independent refiners contained in the Oil and Gas Journal list of United States operating refiners (published March 31, 1945) are located geographically as follows:

State	Number of companies	Number of plants	State	Number of companies	Number of plants
Arkansas	6	6	New Mexico	6	6
California	29	31	New York	2	2
Colorado	5	6	Ohio	2	2
Idaho	1	1	Oklahoma	18	18
Illinois	12	13	Pennsylvania	16	18
Indiana	3	3	South Dakota	1	1
Kansas	11	12	Tennessee	2	2
Kentucky	7	7	Texas	54	58
Louisiana	10	10	Utah	4	4
Michigan	15	18	Washington	1	1
Minnesota	2	2	West Virginia	3	3
Mississippi	1	1	Wisconsin	1	1
Montana	7	7	Wyoming	17	18
Nebraska	6	6			
New Jersey	1	1	Total	[1] 234	257

[1] 8 companies have plants in 2 States: 15 companies each have 2 plants within the same State.

Senator MOORE. Thank you for a very fine statement, Mr. Dow.

Are there any questions?

Mr. FRASER. You do not, Mr. Dow, make any proposals, and probably do not intend to, for divorcement.

Mr. DOW. I am glad to be able to say that in all my correspondence and conferences on this subject no independent refiner has suggested the wisdom of divorcement in the industry, in any of the forms that have been discussed.

Senator MOORE. You do express, or repeat, rather, apprehensions of the refineries as to problems that result from not being integrated.

Mr. DOW. That is right. And as I say here in this paper, I think that it is perfectly accurate to say that every independent refiner would like to become, even though he remains small, an integrated company to the extent that he can do so. And some small companies are; some own their own gathering lines. Some have a share in their crude oil production, and some—a considerable number of them—have at least part of their distribution which they either own or control.

Senator MOORE. We will also have problems in maintaining a solvent industry?

Mr. DOW. That is right.

Senator MOORE. And it is well that we are apprehensive of that before we get too far away from sound practices.

Is there anything further, Mr. Fraser?

Mr. FRASER. No.

Senator MOORE. Very well, Mr. Dow. We thank you very much.

Mr. FELL. Mr. Chairman, before Mr. Becker presents his paper, I should like to say that this morning Mr. Reppert, of the Office of Price Administration, made some statements on marketing. None of us who are here is a marketer, and we were not in a position to answer them. Mr. Majewski, who is a marketer, is now here, and Mr. Majewski would like to have about 5 minutes to answer that before Mr. Becker makes his statement.

STATEMENT OF B. L. MAJEWSKI, DEEP ROCK OIL CO.

Mr. MAJEWSKI. First I would like to make an inquiry as to when the cooperative people are going to put in their testimony. That statement was very interesting.

Senator MOORE. Do you know anything about that, Mr. Fraser?

Mr. FRASER. No; this letter just came today. But I should think that next Wednesday would be a good time.

Mr. MAJEWSKI. There is no chance for them to come on tomorrow, so that some of us could hear it?

Senator MOORE. No, they are scattered around quite a bit, and it would take some time to get them together.

Mr. MAJEWSKI. I was going to suggest that, since the cooperatives were brought into the picture, they be invited to come, because many in the industry would like to hear their defense of the tax advantages that they have enjoyed.

And whilst on that subject, the Western Petroleum Refiners Association meets in Fort Worth on the 25th, 26th, and 27th of March. During the meeting the association directorate will consider a report of the tax advantages that the cooperatives enjoy in the petroleum industry, and will pass upon the report at that time. The association would like to have the opportunity of filing that report with the committee as a part of the record. [See *infra*, pp. 503–518.]

Senator MOORE. That will be done.

Mr. MAJEWSKI. Then if you desire to interrogate representatives of the association on that report, they will be very glad to appear.

Senator MOORE. I am sure that will be welcome.

Mr. MAJEWSKI. I was not here when Mr. Reppert made the statement that OPA was not informed of the trends in the oil industry, particularly dealing with fuel oil. I was testifying at the House Banking and Currency Committee hearing trying to get the oil industry out from under OPA restraints as soon as possible.

I have a great fondness for Mr. Reppert. I met him the hard way; and every time I meet anyone the hard way and get to like the fellow, I soon become a buddy. I find myself in an awkward position to criticize what he said this morning, because I have committed myself and the industry in PAW district No. 2 to help him solve the difficulties that he finds himself in. After all, Mr. Reppert did not create OPA. He just has the onerous task of making the damned thing work. [Laughter.] So I am sympathetic with the poor fellow, and if I had his job I would not quit. I would try to win over these rugged individualists in the oil business to give me a helping hand. And we in the Middle West have decided to help as long as we have OPA, which we hope as good citizens that we do not have to endure too long in the petroleum industry.

In April 1945 at Chicago, the Petroleum Administration for War said to the oil industry in PAW District No. 2, "You have to produce 50,000 barrels of Diesel fuel oil daily for the Navy." The industry in this area replied that it did not know how it could meet this Navy demand and supply the ensuing winter (1945–46) demands of the home owner, even under a rationing program. So a large mass meeting of

the industry was arranged with representatives of the appropriate District Two Industry Committees and representatives of PAW, OPA, and the Navy present. And putting on a revival exhortation, which I want to admit I helped lead, we got the 50,000 barrels daily of Diesel fuel for the Navy. It was tough getting this quantity but the industry pointed out to both PAW and OPA that unless there was a price adjustment made to encourage beginning immediately (April 1945) added manufacture of home heating oils and Diesel fuels and residual fuel oils at the expense of gasoline, during the ensuing heating season the Midwestern home owner would not have sufficient heating oil to keep him even comfortably warm, and that this spring (1946) we would not have distillate or tractor fuels for spring plowing, which are important factors in our economy in the Middle West. This was called to the attention of OPA in April 1945. They promised to look into the matter. PAW constantly urged OPA to take such action, under my spurring, which was part of my job as Chairman of the National Distribution and Marketing Committee of the Petroleum Industry War Council. Mr. Eugene D. Uman was OPA's petroleum price executive at the time. Mr. Reppert was not in the petroleum price unit of OPA until later.

On July 6, 1945, the Petroleum Industry War Council's Economic Subcommittee predicted a shortage of 30,000 barrels a day of kerosene, distillate and residual fuels for the third quarter of 1945 and a shortage of 129,000 barrels a day for the fourth quarter. Again in the same committee's report of October 19, 1945, page 5, it was predicted that during the fourth quarter 75,000 barrels per day of residual fuel oil, 8,000 barrels per day of distillate fuel oil, and 2,000 barrels per day of miscellaneous fuel oils would have to be imported.

These predictions were sent to OPA promptly, but the predictions and industry recommendations for price adjustments were not given very serious attention.

In November 1945 Mr. Sumner Pike, OPA Fuel Price Chief, was reported as saying that the then current fuel oil and kerosene problem on the east coast was the "first little test" of the oil industry's ability to handle itself under peacetime conditions. This first little test for the oil industry meant that the independents would go broke first, and then the larger people would suffer tremendous losses. While gasoline storage would be filling to capacity, the industry would not be making the heating oil—a low-value product—which was badly needed at the moment. Mr. Pike dismissed all discussion by further saying, "Don't ask about discontinuance of price controls; just meet the test." Well, meeting that test meant going broke. That disturbed some of us.

On December 4, I sent a telegram to the President outlining the situation.

Two weeks later I heard from the Petroleum Administration for War and from Mr. Bowles. Mr. Bowles told me about decontrol, but did not say how we were going to get this heating oil. And in a simple way, all the time I was telling him, "Raise the price on fuel oil and you will get it, and you will get lots of it. But every day you delay in raising the price we lose out of each barrel of crude oil that additional fuel oil." That was on December 20, 1945.

Russell Brown of the Independent Petroleum Association got into a bit of a newspaper debate with Sumner Pike at that time, and his reply to Mr. Pike was a classic, too, and factual. But nothing came of that.

On December 6 the advisory committee that was appointed by OPA to study the situation in districts 1 and 3, headed by Mr. McIntosh of Socony-Vacuum, and on which were representatives of large and small refiners in districts 1 and 3, presented a report to the OPA in which they pointed out the seriousness of the situation, and in which they stated what it would take to do the job, in cents per gallon.

OPA on December 19, increased kerosene 0.5 cent a gallon in districts 1 and 3 and 0.2 cent a gallon on heating oil distillates, grades 1 to 4, inclusive, which was insufficient to bring out the desired increase in yields. The recommendation was, I believe, 0.625 cent in the case of kerosene and 0.5 cent, I believe, in the case of heating oils.

For residual fuel oil an increase was recommended, of 10 cents a barrel. Nothing was done on the 19th of December on residual fuel oil at all, except to say that OPA would study it further.

On December 6 at a meeting of the Petroleum Industry War Council, I met Mr. Reppert for the first time, and I mentioned that there was a great midwestern area called district No. 2, and that we had just wired the President, having failed to convince Mr. Bowles that there was a serious situation existing and growing that would impair not only the reconversion effort in district 2, but would put home owners on the spot and make them cold during the winter; and out West, it does get cold; and also that the farmer would be distressed for lack of necessary materials to do his spring plowing with.

Now, you might wonder, when I say we have to have heating oils and tractor fuels, why I talk about them in December for the farmer. Do you know how we accumulate this material? Heating oils, kerosene, and tractor fuels are but a very small fraction of a barrel of crude oil. So we make during the summertime and the fall of the year these small fractions continuously, and not only in the winter when we have the large demand.

Finally, Mr. Reppert—and this is to his credit—instructed the OPA National Refiners' Advisory Committee to study the situation in district 2, and they immediately began the studies. They were ready to report to OPA within 2 days after they were asked to make the study. Unfortunately, the holiday season occurred; Christmas, New Years, and everybody was full of good cheer. The meeting was held early in January after the good cheer wore off. And then, after a delay of 3 weeks, we did get an increase.

Our study was so good and so factual that we not only got an increase as recommended for 0.5 cent on kerosene and the heating oils, but we also got that same increase applied to districts 1 and 3. But again nothing was done on residual fuel oil, although it was pointed out that there would be a deterrent effect on residual fuel-oil production.

Now, it is not solely the fault of the OPA or the industry that we are short this tremendous amount of fuel oil for the Navy. The Navy

were a little reluctant to admit that they were short. They were working on a 7½-million-barrel inventory of these products. And while they were drawing on them, they were hoping that their situation would change so that they would not have to have this increase on top of an already overburdened inventory and supply picture. So all of the blame is not OPA's or even ours. It was a little miscalculating in the Navy services.

Now, those are the facts as to how OPA was informed as to the trends which were growing even at those early dates that I mentioned, April, July, November, December, and January. What help came from OPA came too late and in some instances too little.

As I told the House Banking and Currency Committee today, if OPA had acted with promptness—and this is not critical of OPA—they have so many things surrounding them and hampering them that they cannot act with dispatch. It takes about 10 days to get an order signed. That is not Mr. Reppert's fault, or the fault of the people managing it. It is the fault of the system. I expressed the opinion that if these changes were made some months ago in December, instead of today burdening the public with a 0.5-cent increase in the price of fuel oil, we could have done the job for a quarter of a penny.

We did advise OPA, and kept them currently advised of the trend before VJ-day and after VJ-day.

It seems to me now that we have reached the critical point. I do not see that we gain by criticizing each other. We are in this mess, and we ought to help OPA get out of it. And you gentlemen in Congress ought to help them find a way out. The way out of bureaucratic red tape insofar as the oil industry is concerned or any other industry that qualifies and meets the standards of sufficient productive capacity for raw materials and finished products, no shortage in existing inventory and no impending scarcity—any industry or commodities meeting these standards ought to be released from price control, and these industries put on their own mettle.

Now, the oil industry, every time it has been put to the test in peacetime, has met the demand of the public for the product required, many times to the unprofitable detriment of the refining and marketing end of the business, as well as the production end of the business. You gentlemen in Congress get us out from under OPA and we would not be wasting your time or our own criticising OPA.

Senator Moore. Mr. Reppert, do you want to ask a question?

Mr. Reppert. I would like to comment on it, if I may.

Senator Moore. Very well, you may.

Mr. Reppert. I made the statement this morning that OPA, until November, was not aware that a shortage was impending on fuel oils. Now, Mr. Majewski very effectively points out that we were notified on April 1 and again in July, and then he later brought out in October and November.

I might say that if the industry had come to OPA, which he says they did, and had said at this Chicago meeting in April, "We are going to require some adjustment in our price to do certain things this winter," I can well understand why OPA would in a sense disregard it from a price standpoint.

Prior to the end of the war, on VJ-day, OPA had very good knowledge of the refinery operations which were at such a high level from an earning standpoint that we would not have been able under our standards to make any adjustments at that time. I can see then in April where the office might very well have disregarded that.

That would also apply, I would say, as far as July is concerned, because our Industry Advisory Committee on the East coast, dealing with the Gulf companies and the East coast areas, indicated to us in their December report that, effective VJ-day, the realization of the companies fell off approximately 35 cents or 36 cents a barrel, due to the loss of war business. I am just using that point to illustrate that what happened before VJ-day OPA could not very well take into account.

I was in this position in October, and I do not recall at any time ever having any industry people or PAW contact our office in October with respect to a possible shortage of fuels in the winter. So that brings me back up to the November period, and, Mr. Majewski, my statement this morning was that the first indication we had of a shortage was from Mr. Callis of Petrol who wired us and said he was completely out of kerosene and unable to obtain kerosene from his normal sources of supply. That was, I would say, about the middle of November, and that is the time we got busy and appointed that industry committee.

I did at that time establish some fairly good contacts with some people that remained at PAW, because I thought it was to our interest and to the industry's interest that we did know what was going on from the standpoint of the shortage.

Now, there is one other thing that is reflected here. I know you meant this thing in perfectly good faith. For instance, on Monday we put out an order increasing the price of residual fuel oil. That order was issued and effective the same day that the Administrator signed it. I mean, you are confusing one thing here. We have in the Office a standard on the issuance of effective documents that requires a waiting period, so that the regional offices and the district offices of OPA can be notified so they will not be embarrassed by inquiries from the field and not know what has been done at the national office. That sort of waiting period is never used where there is some adjustment that we feel must be got out quickly. We wire and talk by telephone to the regional offices. I just want to point out to you that if we had today to get something out and it was required and ready to issue, we would not have any difficulty with the Administrator's office in getting an issuance effective immediately.

Mr. MAJEWSKI. I think you are doing much better, and I said at the outset that I am going to help you to get better. I mean, I admitted that I would do that, and I offer that frankly for myself and the industry, and we have demonstrated it.

On November 15, 1945, the Director of Naval Petroleum and Oil Shale Reserves found it necessary to conduct a series of searching economic studies on the various aspects of the petroleum industry. Much of this work was directed toward assisting in the formulation of a long-range national oil policy which would meet the requirements of

national defense. The charts and the data are designed to give a quick picture of the observed trends. You were informed in your Office of that report at the time it was issued?

Mr. FRASER. What report is that?

Mr. MAJEWSKI. November 15, 1945, issued by Commodore W. G. Greenman, the Director of Naval Petroleum Reserves, and gives all the facts which indicate the trend that there would be a shortage of fuel and heating oils in the United States. I mean, this is information from a Government source.

Mr. REPPERT. It is not from sources like that that OPA is generally acquainted with an operating or a supply situation. We are generally acquainted—and I can speak from 4 years' experience down there—by the industry or by the Government supply and distribution agency that has charge of that particular function.

I said this morning, and I will repeat this afternoon, that from the time I entered that office over there, which was the first of October, we knew nothing about this shortage situation until we had this message from Mr. Callis, your telegram, and we immediately went to work on the problem at that time.

Mr. MAJEWSKI. That was again another instance. I do not want to call it buck passing, because that would not happen, would it, between Government bureaus? But in this particular instance, it seems to me that there could be a lot better coordination between the military—and here was the result of their study—the PAW, and the OPA. I do not think that the OPA's responsibility ceases, or their failure to study the reports and findings of other bureaus in the Government excuses them from their responsibility. They have to continue to study what the effect of their price action is on supply and demand.

I say that if they are to continue, that should be the most important feature of their operation, not merely setting the price, but to see how the setting of that price affects the supply to the public on a reasonable price basis.

Mr. REPPERT. May I comment on one phase of that?

Mr. MAJEWSKI. Let me say one more thing. I do not see where we are going to get by arguing. I am a friend of his and he is a friend of mine. I made the statement saying we did not press our point. That was in November. What are we going to do from now on out? The longer we temporize with this thing, the more the public will be soaked, and we in the oil business do not like to soak the public for mistakes made in Government circles. And we really mean that, particularly we independents, because when the price of heating oil gets too high, then we lose our business to gas and coal. And I haven't been working 37 years in this business without learning a lot about it.

I started as a mule skinner, and some of the philosophy I uttered to you I obtained in rainy weather following a team of mules, and a good one, and I got a lot of my philosophy from them. You can get a lot from mules.

I want to say that I do not want to lose my business because of Government price-fixing policies, to competing forms of fuel. I, too, have some kids, as Mr. Dow was talking about, that I want to keep in this business. It has been a pretty good business. You will admit that even Majewski, the former mule skinner, looks pretty well now.

But I have to go to farming, like these other people, if I am going really to do a service for my family.

Mr. REPPERT. There was one comment that I did not touch on there. As far as the rehashing of things is concerned, I agree with him, there is no point in trying to develop a situation here.

Senator MOORE. That always comes in, though.

Mr. REPPERT. That is right. But the one thing, that he touched on there that I have not entered is this, and that is why didn't we increase the residual fuel prices when they recommended that we do so? Now, I will tell you why. I will tell you why we had to spend some time trying to find out what it was all about.

The first part of their recommendation said, "You have to increase the price of kerosene and the price of distillate fuel oil in order to provide the refiners sufficient realization on their investment to produce them in the quantity that they are needed at this time." Now, when they come along and say, "Increase the price of residual fuels so much in order to increase the production of those," we were faced with this problem.

Here we were increasing the price of the first two units which are used generally to make up the third unit. We were increasing prices for kerosene, increasing prices for distillates to get supplies of them, and at the same time they said, "Increase the price of residual fuel oil." We knew that to a large extent, at least, it was the gas oils and the distillates and the kerosenes that make up the production of residuals. Now, that was a little bit of a poser from a price standpoint.

Mr. MAJEWSKI. Of course, you know the oil business is thanking God in reverse, and we hate to do that. Some of us believe in God in the oil business, contrary to general opinion. That is, there was a steel strike and an automobile strike.

Brothers, if it were not for those strikes, OPA would receive a damning verdict from the people of the United States. There would not be enough oil to go around, no matter what you did with the price at this stage. And my only urge to you today is, Senator, and Mr. Counsel, and you gentlemen from the Government bureaus, get the oil industry from under the shackles of OPA, and we will do a better job for the American public at a lower price. That I am sure of. I have been in the business a long time, and competition in the oil industry is still rife.

Mr. FELL. The next witness is Mr. Becker, who will speak on cost and price.

STATEMENT OF MERLE E. BECKER, VICE PRESIDENT, W. C. McBRIDE, INC., ST. LOUIS, MO.

Mr. BECKER. My name is Merle Becker. I am vice-president of W. C. McBride, Inc., an oil producing company located at St. Louis, Missouri. I am also chairman of the subcommittee on cost of production of crude petroleum of the committee on crude oil requirements representing 37 trade associations of the oil industry. I am also a member of the national crude oil industry advisory committee of the Office of Price Administration, as well as a member of the special subcommittee of the same.

A careful study of the fundamental position of the oil producing industry is a necessary preliminary to any consideration of the adequacy of the present crude oil prices. Therefore, certain fundamental data compiled and published by the Petroleum Administration for War and the Bureau of Mines are submitted below with the addition of certain ratios which are considered to be extremely significant and relevant to the crude oil price problem.

In the table which will follow immediately, there are 30 years listed on this table 1, showing the gross productions as reported by the Bureau of Mines, in millions of barrels of new reserves discovered as shown by the PAW reports.

The next column is a ratio of the current discoveries to current production; the next column is millions of barrels of proved reserves at the end of the year as reported by PAW, and the last column is a ratio of reserves to production.

You will note that in the year 1944, the ratio of current reserves to current production was the lowest in the 30 years listed on that table.

TABLE 1.—*Fundamental position of crude-oil producing industry*

[Millions of barrels]

Year	Gross production (Bureau of Mines)	New reserves discovered—gross (PAW)	Ratio—current discoveries to current production	Proved reserves, end of year (PAW)	Ratio—reserves to production
1914	266	219	0.82	7,320	27.52
1915	281	587	2.09	7,626	27.14
1916	300	750	2.50	8,076	26.92
1917	335	684	2.04	8,425	25.15
1918	357	452	1.27	8,520	23.87
1919	378	1,440	3.81	9,852	25.35
1920	443	811	1.83	9,950	22.46
1921	471	2,156	4.58	11,635	24.70
1922	558	913	1.64	11,990	21.49
1923	732	810	1.11	12,068	16.49
1924	714	599	.84	11,953	16.74
1925	763	345	.45	11,535	15.12
1926	772	2,000	2.59	12,673	16.42
1927	900	1,404	1.56	13,267	14.74
1928	902	2,105	2.33	14,470	16.04
1929	1,007	1,357	1.35	14,820	14.72
1930	898	5,482	6.10	19,404	21.61
1931	851	2,080	2.44	20,633	24.25
1932	786	540	.69	20,387	25.94
1933	905	626	.69	20,108	22.22
1934	908	1,880	2.07	21,080	23.22
1935	996	2,115	2.12	22,199	22.29
1936	1,100	1,627	1.48	22,726	20.66
1937	1,279	2,454	1.92	23,901	18.69
1938	1,214	2,115	1.74	24,802	20.43
1939	1,265	818	.65	24,355	19.25
1940	1,353	1,539	1.14	24,531	18.13
1941	1,402	1,269	.91	24,388	17.40
1942	1,387	840	.61	23,836	17.19
1943	1,505	936	.62	23,262	15.46
1944	1,678	659	.39	22,243	13.26

During the period 1914 to 1935, inclusive, new oil reserves discovered were approximately twice as great as the volume of oil produced. From 1936 to 1939, inclusive, the ratio of discoveries to production declined to 1.4 but from 1941 to 1944, inclusive, this ratio was only 0.6 and information now available indicates that new discoveries in 1945 also will be substantially smaller than the volume of oil produced. The 1944 ratio of new discoveries to production was only 0.39—the smallest figure for any year shown on table 1. The 1944

ratio of proved reserves to production was 13.26—also the smallest figure for any year shown on table 1.

The productive capacity of the industry can be maintained only through the discovery of a volume of new reserves which is substantially larger than the volume of oil produced. The relationship between discoveries and production which is necessary to maintain productive capacity cannot be determined precisely but the engineers are of the opinion that the volume of new discoveries should now be at least 50 percent greater than production in order to assure productive capacity in relation to demand. The downward trend in new discoveries must be sharply reversed in order to prevent further impairment of productive capacity and proved reserves available for the future.

The crude-oil producing industry is one of the most important of all basic industries. The existence of other important industries and continuance of our present way of living depend upon the availability of plentiful and cheap supplies of oil products. Therefore, the maintenance of the productive capacity of the oil producing industry and its proved underground reserves available for the future is vitally essential to the national interest. Maintenance of productive capacity and proved reserves can be accomplished only by replacement of oil produced through the discovery and development of new fields.

In the past, increases in the price of crude oil have always stimulated exploration and discovery and thereby have resulted ultimately in lower product prices to the consumer. The recent greatly expanded volume of exploratory activity was not sufficient to prevent impairment of proved reserves. The oil-producing industry cannot possibly maintain anything like its recent volume of replacement operations unless, through an increase in prices of oil, it is provided with the funds required for this purpose and given some expectation of deriving a reasonable profit from these operations.

Consideration of the crude-oil price problem must be preceded by a basic decision, i. e., whether, in the national interest, the crude-oil producing industry should be subjected to further liquidation or whether prices should now be increased to a level which would permit it to operate on a "going concern" basis without further impairment of productive capacity and proved reserves available for the future.

The bulk of the industry's income has consistently been spent in efforts to discover new fields and the development of new fields discovered. Therefore these operations are the major normal operations of the oil-producing industry. A fair and equitable price for crude oil must be one that will permit the industry to carry on the necessary volume of its major normal operations with some expectations of deriving a reasonable profit therefrom.

For more than 80 years price has been the principal factor in determining our petroleum supply. Throughout the history of the industry in war and in peace, the objective of supplying the Nation with petroleum has been accomplished through the normal economics of the industry. Price has been the primary stimulus to encourage search for petroleum reserves. This is the experience on which the industry has been built. Under free economy, the producer had an opportunity in times of unusual or abnormal production demands which caused prices to rise to build up reserves of cash for the necessary capital to use to search for and develop new reserves to take the place of the depleted inventory of crude oil.

Some of the price factors are as follows:

1. The cost of raw material crude oil is basic and the price should be sufficient to cover not only all costs of operating proven oil properties but also the cost of exploring for, discovering, and developing new reserves of crude oil to replace the oil currently produced.

2. The price of crude oil affects the ability of stripper wells to continue in operation and to recover the reserves underlying such properties without premature abandonments.

3. Price directly affects the extent of exploration work, the number of new oil producing areas discovered, and the quantity of new proven reserves made available. The price of crude oil in relation to the price of salvage material and equipment has a direct influence in determining whether to abandon wells.

4. The prices of all other commodities, particularly raw materials, enter into the cost of oil and some equitable relationship must exist between oil prices and other prices if adequate quantities of crude oil are to be made available.

5. The margin above costs should be sufficient to provide for:

(*a*) Funds for the exploration needed to find adequate new reserves.

(*b*) Funds to cover replacement costs.

(*c*) A reserve fund for secondary recovery or other conservation measures.

(*d*) A fair return on borrowed and invested capital taking into consideration the extreme hazards involved in searching for and finding oil.

(*e*) To maintain the industry as a healthy, going concern.

It is impossible to tell exactly what it will cost to replace a barrel of oil during the year of 1946 or in subsequent years, but we do know that venture money cannot be expected to seek an outlet in a business as hazardous as searching for oil unless there is an opportunity for an appropriate, adequate margin of profit, greater than would be necessary in a less hazardous undertaking.

It must be recognized that prices based on past costs will not provide the necessary incentive for venture money to enter into exploratory effort. To accomplish that purpose it is essential that prices be based on current costs.

Statistics indicate a definite upward trend in costs to the extent that present prices are substantially below the cost of replacement.

At no time since 1926 has a price index of crude oil been on a parity with the price index of all commodities or the price index of all raw materials, but it has at all times been subnormal, and since the price of crude oil was frozen by Government action in 1941 the price index for all commodities and for all raw materials has increased rapidly.

There is a chart showing that situation on the next page, entitled "Crude oil price at depressed level."

Now that the war is over and we have an adequate supply of crude petroleum and since the Independent Petroleum Association of America and the Petroleum Industry War Council have recommended the elimination of price control on crude petroleum and its products, it is the belief of the independents that price control should be eliminated, but if this is not done immediately then the price ceiling on crude petroleum should be such as to permit crude oil prices to increase at

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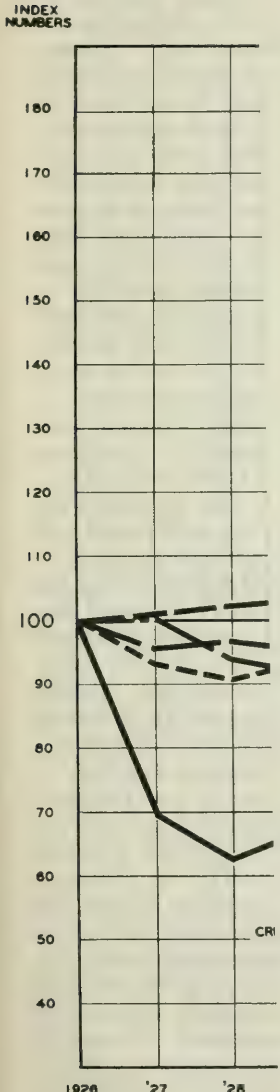

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least to the point where they may be equivalent to the average price index of all raw materials.

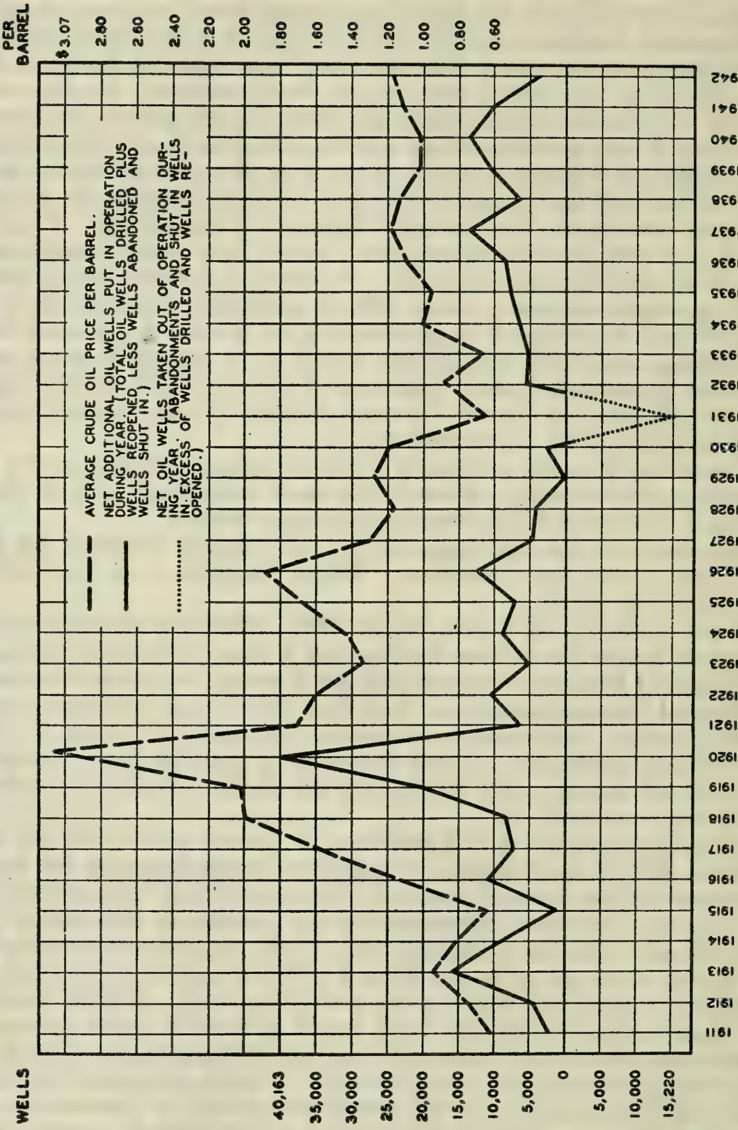
Determination of the price which will be sufficient to bring about the desired result can only be made when related to quantities of reserves discovered. If the finding rate is declining, as it has been for the past several years, the additional expenditures required to replace the depleted reserves must be provided out of increased income. As it becomes more and more difficult to find new reserves, the price must be adjusted to the extent required to obtain sufficient productive capacity. The increasingly poorer discovery record for the past several years is a direct indication that it is becoming more and more difficult to find new oil deposits, because of the long period of depressed prices little of the bold exploratory effort has been employed in the industry and first class favorable prospects have about played out. Prospects which are now considered first class would have been classed second and third class several years ago. A search has extended to greater drilling depths in recent years. While appreciable quantities of new reserves will be found with greater depths within the present limits of drilling, structures usually are found to be relatively more costly with the increasing depth. The cost of exploring and developing increases and the risk becomes greater so that greater sums of money must be set aside for probable loss.

The price of crude petroleum plays an important part in its production and discovery. Price is the most important tool of the oil industry. Without it all other tools become useless.

The chart on the next page shows the relation between the price on crude oil and the discoveries. When the price is up you will see the discoveries go up.

In my testimony of September 21, 1944, before the House of Representatives Select Committee To Conduct a Study and Investigation of the National Defense Program and Its Relation to Small Business in the United States, I testified at that time that it was my belief that the price of crude oil should be increased 63 cents per barrel to cover current cost prevailing at that time and to provide for a margin of profit which was reported to exist by the Tariff Commission study of the first 9 months of 1941.

We have repeatedly called attention of various agencies of the Government and of congressional committees to the necessity for having an increase in the price of crude oil. Invariably these committees after hearing the facts have recommended an increase in the ceiling price of crude oil. The OPA has rejected or ignored the recommendations for higher crude oil prices made by PAW and each of the several congressional committees which have studied the crude-oil price problem. All these recommendations were based primarily upon preventing impairment of productive capacity and proved reserves, by stimulating discoveries through the establishment of more adequate prices for crude oil. Continuance of the downward trend in discoveries, with further reduction of productive capacity and proved reserves, must inevitably lead to a scarcity value for crude petroleum. The policy followed by OPA with respect to crude-oil prices therefore has contributed substantially toward creating a scarcity value for crude oil which ultimately must be borne by the consumers of oil products.



PRICE NORMALLY STIMULATES NEW OIL SUPPLY AS SHOWN BY NET ADDITIONAL WELLS BEFORE PRICE CONTROL

The following is a résumé of the times that the oil industry has testified or called attention to congressional committees and agencies of the necessity for an increase in the price of crude oil:

1. July 26, 1941: A memorandum on the price of crude oil was submitted to the Office of Petroleum Coordinator, now the Petroleum Administration for War, and to the OPA.

2. November 1941: OPA Administrator Leon Henderson advised Mr. Buttram, president of the IPAA, that he would not discuss price with associations.

3. December 2, 1941: Mr. Buttram wrote to Administrator Henderson insisting on the right of associations to discuss the price of crude oil with his Office.

4. December 16, 1941: Witnesses appeared before the Senate Committee on Banking and Currency during the hearing on H. R. 5990, which was amended to authorize OPA to confer with associations.

5. July 1942: Subcommittee on Mineral Resources of the Senate Committee on Public Lands and Surveys held hearings in Wyoming, New Mexico, and west Texas. Witnesses testified at all the hearings as to the need for an increase in the price of crude oil.

6. October 1942: Subcommittee on Mineral Resources of the Senate Committee on Public Lands heard witnesses testifying about the price of crude oil.

7. October 22, 1942: Chairman Cole, of the Cole committee, wrote to the President urging a better price for oil.

8. November 25, 1942: Witnesses appeared before the Petroleum Subcommittee of the House Interstate and Foreign Commerce Committee now known as the Lea committee and presented data with regard to supply of petroleum showing a need for price increase.

9. December 4 and 5, 1942: Subcommittee of the Senate of which Harry S. Truman was chairman, conducted hearings in Oklahoma City and heard testimony regarding price of crude oil.

10. January 18–22, 1943: Special committee headed by Senator Clark of Missouri, conducted hearings on the fuel situation including oil, in Kansas City and Oklahoma City. Many witnesses appeared and testified.

11. February 3, 1943: Petroleum Industry War Council recommended to the Petroleum Administrator for War that the ceiling on crude oil prices be lifted.

12. April 7, 1943: Petroleum Administrator for War Ickes stated that he had recommended to OPA that the ceiling price on crude oil be lifted an unspecified amount.

13. April 13–16, 1943: Select Committee on Small Business, headed by Wright Patman, and the Petroleum Subcommittee, headed by Clarence Lea, conducted hearings on crude-oil situation before which many independent producers appeared and testified. Emphasis was placed on need for increase in price. Mr. Ickes also testified that he had recommended lifting the price ceiling an average of 35 cents per barrel.

14. April 26, 1943: Senator Thomas of Oklahoma introduced a resolution providing as follows:

> That it is the sense of the Senate that the Federal agency having control of price ceilings should take immediate action to raise the ceiling price on oil to such a point as will be instrumental in promoting oil exploration, development,

discovery and production of sufficient oil to serve the war effort as well as the necessary domestic needs of our people.

15. May 3, 1943: OPA Administrator Prentiss Brown rejected the PAW request for an increase in crude oil price ceilings and recommended a system of subsidies as an alternative.

16. May 10, 1943: Select Committee on Small Business of the House of Representatives in their report said:

> We recommend that the Federal Government agencies make effective the price increase recommended in our preliminary report (35 cents per barrel) to the end that immediate capital money be issued the industry to increase production of crude petroleum.

17. May 12, 1943: Congressman Patman, of Texas, introduced a resolution in the House providing—

> That it is the sense of the House of Representatives that the President and the Federal agencies having control of price ceilings should take immediate action to raise the ceiling price of oil at least an average of 35 cents per barrel.

18. June 7, 1943: Congressman Disney, of Oklahoma, introduced a resolution in the House providing for the transfer of powers and functions formerly conferred on the OPA with reference to crude oil price ceilings to PAW and providing that no price ceiling should be fixed on crude petroleum or its products below a price equal to the price index of all commodities.

19. June 20–27, 1943: Subcommittee of the House Naval Affairs Committee with Chairman L. Mendel Rivers, of South Carolina, conducted hearings on the crude oil situation in Illinois, Arkansas, Mississippi, Texas, and Louisiana. Many witnesses were provided for these hearings.

20. June 25, 1943: Senate Subcommittee of the Committee on Appropriations of which Senator Thomas of Oklahoma is chairman explored the domestic petroleum situation particularly with reference to the remaining undiscovered reserves of petroleum in the United States as well as the current and immediate future supply. Witnesses appeared before this committee and stressed the need for increased price ceilings on crude oil.

21. July 3, 1943. The Special Committee on Petroleum Investigation of the Committee on Interstate and Foreign Commerce of which Congressman Lea, of California, is chairman, submitted its report to the House with the following observation:

> The importance of price as an incentive and requisite for needed production can scarcely be a matter for debate by men of practical experience—

and the committee recommended that PAW be given unified control over problems of Government as to the production, supply, and price ceilings of oil and petroleum products.

22. July 6, 1943: Chairman Rivers of the Subcommittee of the House Naval Affairs Committee reported to the House that the hearings conducted by his committee had developed that problems of the oil industry were subparity prices for crude oil, Government red tape and manpower and material shortage. He recommended an increase in price ceilings for crude oil.

23. August 7, 1943: OPA rejected Petroleum Administrator for War Ickes' recommendation that crude oil price ceilings be increased an average of 35 cents per barrel.

24. October 4, 1943: Senator Thomas of Oklahoma introduced a bill in the Senate providing for consideration to be given to parity in fixing or establishing prices for crude petroleum or its products. The bill also provided that no ceilings on crude petroleum should be less than 35 cents per barrel above present ceilings.

25. October 6, 1943: More than one hundred members of the House of Representatives met to discuss the oil supply situation, the consumer interest being evidenced by many Congressmen from non-oil producing States. They decided to discuss the price problem with Judge Fred M. Vinson, Director of the Office of Economic Stabilization, and proceed by the legislative route if relief was not forthcoming from the executive department.

26. October 19, 1943: The special committee to investigate the fuel situation in the Middle West headed by Senator Clark of Missouri, reported "the committee is definitely of the opinion" that every circumstance justifies an increase in the price of crude oil. The committee doubts whether the increase suggested by Petroleum Administrator for War Ickes of 35 cents per barrel is sufficient to bring the necessary added exploration. The committee is more disposed to the thought that in view of the continued increasing cost prevalent throughout the entire producing oil fields, a minimum of 50 cents per barrel increase should be allowed. In fact the committee believes perhaps a 60-cent increase is necessary.

27. October 1943: A subcommittee of the House Naval Affairs Committee with Congressman Rivers, of South Carolina, as chairman, after several hearings in Washington and throughout oil-producing States, reported:

the immeasurable benefits of petroleum to the war effort, to the civilian population of today and to the generations yet unborn cannot be measured in dollars and cents. We feel therefore that if it is necessary to raise the price of crude oil and refined products to get the increase in the cost of finding, developing and producing adequate amounts of petroleum, patriotism demands such a course. We should not take a chance on a matter so vital to the economy of our nation.

The committee further stated:

We are of the opinion that the price ceilings on crude oil should be raised to cover such increased costs immediately and without further delay.

28. October 30, 1943: Fred M. Vinson, Director of the Office of Economic Stabilization, announced its refusal to permit the proposed increase in the price of crude oil.

29. December 13, 1943: The House passed the Disney bill (H. R. 2887), requiring OPA to increase price ceilings for crude petroleum to at least 80 percent of parity. The bill then went to the Senate and was referred to the Banking and Currency Committee.

30. July 6, 1944: Judge Fred M. Vinson, Director of Economic Stabilization, announced a plan for subsidies to be paid for oil from small wells.

31. July 17, 1944: A special Senate committee to investigate the fuel situation in the Middle West met in Kansas City, Mo. A number of independent producers testified regarding the price of crude oil.

32. September 20–21, 1944: The Select Committee on Small Business with Congressman Wright Patman of Texas, as chairman, conducted hearings in Austin, Tex. Many oil producers appeared and testified regarding the need for an increase in the price of crude oil.

33. December 4, 1944: An interim report of the Select Committee on Small Business asserted that the price policies of OPA are retarding further exploration for new reserves of crude petroleum by independent producers and that increased exploratory effort is needed to regain the balance between discovery and use of oil.

Since 1941 these independent producers have found their path strewn with obstacles not of their own making. Despite lack of experienced manpower, inability to secure equipment and all other essential materials in volume and in the face of a price policy on the part of the Government which has discouraged rather than encouraged production, this group has maintained a production record which has been one of the outstanding contributions to the war effort. It is to the everlasting credit of this group that many of their numbers have operated at an actual loss of profit, but despite that they have continued to pour into the pipelines the fuel which is the lifeblood of the war effort.

34. January 2, 1945: The Petroleum Subcommittee of the House Committee on Interstate and Foreign Commerce submitted its final report under resolution of the Seventy-eighth Congress:

Oil from the standpoint of its inherent value, is one of the cheapest products that man can buy. This committee has heretofore expressed its approval of proper prices to give the producer of crude oil a reasonable price for his product. We believe that the production of crude is an industry in itself and that it should be placed on a healthy, self-supporting basis in its own right and not to be made dependent upon a better income from the refining, transportation, or distribution phases of the oil industry.

In any event from the standpoint of preserving a healthy industry prices must provide reasonable compensation and have a changing relation in proportion to costs.

35. January 3, 1945: OPA, in response to a request from the Select Committee on Small Business, appointed the National Crude Oil Industry Advisory Committee with 23 members, all of whom were present at the first meeting in Washington, January 15. This committee immediately started work on the form of a questionnaire to be sent to a sampling list of producers.

36. March 14, 1945: Russell B. Brown appeared before the Banking and Currency Committee of the Senate on behalf of the members of the IPAA, seeking relief from an onerous and oppressive crude oil price structure. The committee at that time had under consideration extension of the Price Stabilization Act.

37. April 7, 1945: Senator O'Mahoney of Wyoming, chairman of the Special Committee Investigating Petroleum Resources, filed a report with the Senate outlining hearings which the committee would conduct. No. 3 on that list is the independent company.

38. April 1945: Congressman Boren of Oklahoma introduced H. R. 2940 "to fix the price of crude petroleum and its derivatives and fix a parity formula." This bill is the same as the Disney bill which was passed by the House in December 1943, but died in committee in the Senate.

39. May 17, 1945: Senate Special Committee Investigating Petroleum Resources with Senator O'Mahoney as chairman, started hearings.

40. June 12–13, 1945: The Patman Small Business Committee of the House conducted hearings with the announced purpose of ascertaining why there had been delay in the crude oil cost survey.

The independent companies are not the only ones who are of the opinion that the price of crude oil should be increased or that the expenses involved in finding, developing, and producing crude oil have

greatly increased. The following are quotations from annual reports of some oil companies to stockholders for 1944:

The Humble Oil & Refining Co. in its report to the stockholders of April 14, 1945, covering the calendar year of 1944 stated:

Higher costs are being experienced in replacing the large volume of oil which Humble is producing to meet war demands.

* * * Humble is drawing heavily on its reserves discovered in the preceding decade in order to provide oil for military purposes. To the extent that this oil is being replaced, it is at higher costs. This should be taken into account when considering the financial results for the year.

The higher cost of discovering and developing reserves experienced by Humble in 1944 is part of the general trend for the entire industry. The fact that discoveries of new oil are running substantially less than they did during the previous decade while expenditures for exploration and development are now far above that level demonstrates clearly that the industry's replacement cost is greater than the cost of the oil now being produced. The current favorable operating results in the industry are due to high rates of production and the successful finding spree of the 1930's. The petroleum industry will experience substantially higher unit costs of petroleum when output declines from the present abnormal levels and a larger proportion of the total is the high cost oil found now and in the future.

The realization on crude oil continued to be limited by price ceilings to an average of $1.22 per barrel at the well, practically the same as in 1943. The average price realized by Humble last year was only 3 cents per barrel higher than in 1937. This represents a gain of 2.5 percent in crude oil prices over the past 8 years. In this same period commodity prices generally have advanced 20 percent. Raw materials have advanced 35 percent and the cost of labor has increased in similar proportion.

The future supply of oil for civilian needs and national security is endangered by * * * the continued restriction of prices to prewar levels. Prices currently are at the levels that prevailed in 1937 even though the cost of replacing oil is now much greater. Present prices do not provide sufficient incentive for experienced operators to search for and develop new reserves. Exploration work will have to be expanded even above current levels before new discoveries equal production. This is not likely to occur unless oil prices are raised. The increase required to maintain adequate reserves will be greater if added tax burdens reduce the return to producer. The time to increase prices is now for the relation of supply and demand in the postwar transition period will make it difficult, if not impossible, to secure higher prices. An increase in the price of crude oil with corresponding changes in product prices should be authorized promptly to assist in maintaining adequate petroleum supplies.

This company is the principal producing subsidiary of the largest integrated oil company in the United States, the Standard Oil Co. of New Jersey.

Amerada Petroleum Corp.; April 9, 1945:

* * * present abnormally high drilling expenditures.

Phillips Petroleum Co.; March 15, 1945:

* * * Federal subsidy granted August 1, 1944 * * * will provide little, if any, stimulation to costly exploration efforts of the kind upon which this Nation must rely to discover large reserves and to sustain present and anticipated rates of crude oil withdrawal.

* * * Any petroleum enterprise, therefore, which possesses ample natural resources, complete integration, technical ability, and effective organization and management, bids well to achieve successful results over an extended period.

Standard Oil Co. (incorporated in New Jersey):

* * * Current costs of discovery are substantially higher. Replacement of crude oil now being drawn from the ground is of course essential. Continuation of high finding costs, therefore, will make desirable an upward revision of the price of crude to support the exploration required for extensive new discoveries.

* * * Extensive new discoveries of oil will be needed in the postwar years to provide the backlog of resources necessary for national security, for efficient operations and to supply expanded postwar markets.

The Texas Co. and subsidiary companies:

* * * The new oil found in 1944 was only approximately 511,000,000 barrels, or less than one-third of the withdrawals during the year. A substantial part of this new oil was found by deeper drilling in existing fields.

* * * Because of the record demand for petroleum, some of the more important oil fields have been and continue to be, overproduced, resulting in possible reservoir damage and the eventual loss of oil underground. As the reservoir pressures decrease production costs will increase due to the necessity of pumping a larger volume of the ultimate oil to be recovered * * *.

It should be recognized that the industry still continues to draw on the backlog of oil reserves discovered and developed at low cost during the 1930's, and that the reserves so produced are being only partially replaced with new crude oil reserves discovered and produced at much higher cost. The industry is disposing of its inventory in the ground (crude oil reserves) at prices which do not stimulate exploratory drilling on the part of the small independent producer, and are not in keeping with the increased cost of new discoveries.

In view of these conditions, the management repeats its statement made in the 1943 annual report, and reaffirms the following conclusions:

(1) Unless there is developed an entirely new or improved technique for locating deposits of oil, new discoveries will be less frequent and new production will be more costly than in the past.

(2) It is believed that a more equitable price is necessary to stimulate exploratory drilling particularly on the part of the small producer. The number and depth of these exploratory wells must, in our opinion, be increased far beyond that considered normal in the past.

(3) Unless new important reserves are discovered in the United States, this country must become a substantially larger importer of petroleum in order to provide for its military, industrial, and civilian requirements * * *.

At the suggestion of the House Small Business Committee and representatives of the industry, the National Crude Oil Industry Advisory Committee was created and a study of the cost of finding, developing, and producing crude petroleum on a national basis was initiated.

The Small Business Committee suggested that:

Due to the great number of firms engaged in crude oil production, the study should not attempt to include reports from all firms in the industry.

The House committee suggested procedure that would limit the study to a small number of firms and referred, by way of illustration, to a study made by the Office of Price Administration in which "cost forms were sent to approximately 100 firms * * *."

It has been estimated by governmental agencies that there are 18,000 to 20,000 oil producers.

The Office of Price Administration's cost reports from 281 firms representing 56 percent of the total production, were received by the Office of Price Administration in this emergency study. Included in the sample of approximately 700 were large, medium, and small firms from various areas in the United States which are representative of all the producing areas. The selection of firms to be surveyed was made by the Office of Price Administration. This committee cooperated by assisting the Office of Price Administration in determining, where known, whether or not the selected firms were representa-

tive and in urging those selected to furnish the Office of Price Administration with the requested cost data.

Mr. FRASER. Do I understand that 281 answered the questionnaire?

Mr. BECKER. That is right.

Mr. FRASER. About 700 received the questionnaire?

Mr. BECKER. I think that is correct, is it not, Mr. Reppert—700 received them, and 281 returned them?

Mr. REPPERT. That is right.

Mr. BECKER. I will return to the statement.

Many firms were unable to furnish data suitable for accounting analysis. Many were precluded from furnishing data due to lack of necessary or competent personnel to prepare and submit the required data. The number of responses received is gratifying to the committee, being greater than was originally contemplated by those who developed the plan of procedure when the survey was initiated.

The number of 797 to whom the Office of Price Administration finally sent questionnaires is 262 more than the original selection made January 25—after deleting duplications, those out of business, etc., the Office of Price Administration estimates 700 of the 797 were in existence and from whom returns might be expected; 281 responded.

The current Office of Price Administration study on crude production costs is now in its fifteenth month. Some controversy developed between the Office of Price Administration and the industry advisory committee, but the committee did obtain over-all data from the survey at the end of last November and recently submitted the results of its analysis to the OPA. The rising trend in costs of finding, developing, and producing crude oil is definitely supported by the findings in that survey.

According to the cost data received by the industry advisory committee, it appears that exploratory costs in 1944 were four times higher than in 1936–39. Development costs were double and operating costs were up 10 percent in the same period.

The National Crude Oil Industry Advisory Committee, created under the law and appointed by OPA, has made a study on the cost of finding, developing, and producing crude petroleum. They made a report to OPA dated February 11, 1946. I desire at this time to insert for the record a copy of that report for the consideration of the committee.

Senator MOORE. It will be admitted.

Mr. FRASER. May I inquire, has that been printed anywhere?

Mr. BECKER. No; it has not, except that it has been mimeographed by the committee.

Mr. FRASER. It has not been published by OPA?

Mr. REPPERT. No; but we gave the committee permission to release it to the public.

Mr. FRASER. I was just trying to avoid printing it again, if it has been printed once.

Mr. BECKER. It has not been printed yet.

Mr. REPPERT. You mean to make copies?

Mr. FRASER. No; to print it in the record. You see, that will cost thousands of dollars to be printed. Do you want to file it with our committee, or do you think that it should be printed?

Mr. BECKER. We would like to have it as part of the permanent record.

Mr. FELL. The Government has not printed it yet.

Mr. FRASER. And you think it should be printed?

Mr. FELL. Yes; we think it should be printed.

Mr. BECKER. I think there are a few more copies for the committee, if you do not have them now.

Mr. FRASER. Do you think that all these various compilations here should all go into the printed record? Of course, I have not read this, but I am just asking you.

Mr. BECKER. I think in some place it should be in a formal, permanent record, because this is the best and most complete cost study that has ever been made in the industry.

Mr. FRASER. And you think it has permanent value beyond its immediate purpose of persuading OPA at that time?

Mr. BECKER. I do; yes,

Mr. REPPERT. There are features that we question, and as a matter of having it a permanent record, even though it is an excellent presentation, if you say it is going to cost the Government thousands of dollars to put it into the record, I would certainly be a bit "Yankee-ish" in my judgment about that.

Mr. FELL. That has been prepared by some of the best cost accountants in the industry.

Mr. REPPERT. Mr. Chairman, it might help you make a decision without levying any criticism on the report if I say that they have constructed things like reserves there in a manner different from the manner in which they are constructed by industry publications, for instance, the amount of reserves, and how they are applied year by year. So that is the reason I say that there would be a question as to its permanent value.

Mr. BECKER. Those reserves to which Mr. Reppert refers are the ones which were prepared by PAW. I imagine they have already been submitted to your committee.

Senator MOORE. They have been, I think.

I feel that, while I am not anxious to spend unnecessary money for this record, the record as a whole is going to be a very valuable document. And this study, as it is represented to have been made by competent persons from some fairly authentic sources, I think I will say, unless Senator O'Mahoney sees the matter differently in this case, we will admit it to be printed into the record.

Mr. FRASER. Do you feel that that supplement should be printed, too, that contains the over-all totals from the crude-petroleum-production survey as transcribed from certain punchcard listings?

Mr. BECKER. That gives us the basis for the whole study.

Mr. REPPERT. Mr. Chairman, I was going to suggest to you after Mr. Becker is through, if this committee so desires, and I imagine they might, since this is a treatise on price control in this industry, that the best way for OPA to give you our side of the story is through the presentation of a paper on it, as well. Now, it seems to me that if that is true, it would follow that that paper presented by OPA should be made a part of the record as well.

Senator MOORE. That will be a matter for subsequent consideration.

Mr. FRASER. Unless you print it yourself. Of course, if the OPA printed it, we would not print it again.

Mr. REPPERT. I do not follow you on the printing of it, evidently.

It is printed now. So why does it cost the thousands of dollars?

Mr. FRASER. You say yours are printed?

Mr. REPPERT. No; I say this is printed.

Mr. FRASER. Oh, this is not printed. This is just a mimeographed document.

Mr. REPPERT. When I used the word "printed" that is what I meant.

Mr. FRASER. I guess the Senator has already decided to print this, but now Mr. Reppert is suggesting printing something in the way of a reply or comment by OPA. And I was merely saying that if OPA did in one of its publications print that reply, there would not be any object of our reprinting it in our hearings. But if you did not print it in the first instance, then that would raise another question. Maybe it would then be printed in our record.

(The document referred to is as follows:)

REPORT ON THE COST OF FINDING, DEVELOPING, AND PRODUCING CRUDE PETROLEUM

Submitted to the Office of Price Administration by the National Crude Oil Industry Advisory Committee, February 11, 1946

FOREWORD

The Report on the Cost of Finding, Developing, and Producing Crude Petroleum together with the resolution of the National Crude Oil Industry Advisory Committee was transmitted to the Office of Price Administration, February 11, 1946. Following the isuance of the wage-price Executive order by the President of the United States on February 14, 1946, the committee submitted additional information as to the effect of the wage-price order to the Office of Price Administration by letter of February 25, 1946. Copy of that letter is included herewith.

At a conference with officials of the Office of Price Administration on March 4, 1946, members of the subcommittee of the National Crude Oil Industry Advisory Committee were informed that an announcement would be made the following day of a proposed increase of 10 cents per barrel in crude petroleum ceiling prices. A copy of that announcement dated March 5, 1946, is made a part of this publication, together with a copy of a letter to the members of the committee dated March 6, 1946, which includes a copy of the telegram which Chairman Charles A. Roeser sent to the Honorable Paul A. Porter, Price Administrator, urging him to give full effect to the recommendations of the committee.

NATIONAL CRUDE OIL INDUSTRY ADVISORY COMMITTEE,
Washington 5, D. C., February 11, 1946.

Honorable CHESTER BOWLES,
Price Administrator, Office of Price Administration, Federal Office Building No. 1, Third and D Streets SW., Washington, D. C.

DEAR MR. BOWLES: I have the honor of transmitting to you a resolution adopted by the National Crude Oil Industry Advisory Committee, and its Report on the Cost of Finding, Developing, and Producing Crude Petroleum, in which the recommendations of this committee on crude petroleum price ceilings are presented for your consideration.

This report presents the considered judgment of your committee. Its conclusions were reached after careful study and analysis during the past year of industry data and its recent analysis of statistical and cost data covering the years 1936–39 and 1941–44, recently supplied to the committee by your office. These data indicate that there is a substantially increasing upward trend in the cost of finding, developing, and producing crude petroleum.

Your committee believes that existing crude petroleum price ceilings are insufficient to permit the normal exploratory and development operations needed to provide adequate petroleum reserves in this country sufficient at all times to maintain a readily available supply of producible crude petroleum for national security and to meet the indicated military demands and the normal expansion in civilian and industrial requirements for petroleum products.

The committee urges that you immediately amend and revise existing maximum price ceilings on crude petroleum by a general upward adjustment of such

ceilings throughout the United States averaging 35 cents per barrel, so that each grade and character of crude petroleum may receive such price as is justified by the facts and such additional upward adjustments as may be necessary to effectuate the purposes of the Emergency Price Control Act of 1942, as amended.

No specific recommendation is made in this report regarding petroleum products price ceilings for the reason that we believe any recommendation relating to petroleum products is a subject which comes within the functions of other Office of Price Administration industry and advisory committees. We recognize, however, that in adjusting crude petroleum price ceilings, consideration must be given to necessary adjustment in petroleum products price ceilings.

Although the position of the petroleum industry on the question of continuing price control of crude petroleum and its products has been made known through resolutions of the Petroleum Industry War Council and trade associations of the industry, the committee recognizes its primary duty as one apart from the over-all question of decontrol, and recommends that consideration of the question of a proper price base for crude petroleum should not be postponed awaiting the indefinite time at which decontrol may be effected.

We urge that the report herewith be given your earliest possible attention to the end that the recommendations contained in said report be made effective in order to avoid further damage to this basic industry which is one of the most important in contributing to our economic welfare and security.

Members of this committee will be glad to meet with you and the officials of your Office to discuss this report in detail.

Respectfully submitted.

National Crude Oil Industry Advisory Committee,
By Charles F. Roeser, *Chairman.*

RESOLUTION

Whereas the subcommittee selected by the National Crude Oil Industry Advisory Committee, January 15, 1945, in Washington, D. C., was instructed to assist the Office of Price Administration in the details of organizing and completing a national survey of crude petroleum costs and to study, analyze, and interpret the results of such survey with a view of determining whether the prices of crude petroleum are generally fair and equitable, and

Whereas the subcommittee has completed its study of the cost data submitted to it by the Office of Price Administration and have submitted their report to this committee together with their recommendations: Therefore be it

Resolved, by the National Crude Oil Industry Advisory Committee, That said report and recommendations be and they are hereby approved; be it further

Resolved, That this report be submitted to the Administrator of the Office of Price Administration and that the chairman or his nominee is hereby directed to deliver this report to the proper officials of the Office of Price Administration as the report and recommendation of this committee with the request that it be given immediate consideration to the end that the recommendations contained in said report be made effective at the earliest possible moment.

National Crude Oil Industry Advisory Committee,
Washington 5, D. C., February 25, 1946.

Honorable Paul Porter,
Price Administrator, Office of Price Administration, Federal Office Building No. 1, Third and D Streets SW, Washington, D. C.

Dear Mr. Porter: On February 11, 1946, Mr. Russell B. Brown and the undersigned delivered to Mr. J. H. Reppert, petroleum price executive, a resolution adopted by this Committee and its report on the cost of finding, developing and producing crude petroleum in which the recommendations of this committee on crude petroleum price ceilings were presented for your consideration.

On February 14, 1946, the President issued the wage-price Executive order and subsequently increases have been announced in the basic cost of steel which will affect the larger amount of materials and supplies vital to the development and production of crude petroleum. Also, as you know, there has been a recent almost general substantial increase in the cost of labor.

Approximately 65 percent of the gross income from the production of crude petroleum must normally be expended in the search for and development of petroleum reserves to maintain adequate production. A very large part of these

expenditures are for labor and steel products. Operating expenditures, which exceed 25 percent of the oil dollar, are also largely for labor and supplies, both of which are affected by the recent wage and price adjustment.

The petroleum industry is the second largest industry in the United States—widely dispersed over the Nation. It is composed of all sorts and sizes of operators. The effect of these recent wage and material adjustments adds further pressure to the squeeze between costs and depressed ceiling prices in this industry.

It is no longer possible for this industry to absorb these increases in costs—serious hardship has already driven many smaller operators out of the business and many cannot carry on the necessary replacement operations. Direct and immediate measures of relief are necessary.

I present for your consideration in table 1, data on wages and salaries in crude petroleum production showing Department of Commerce figures for 1936 through 1944 on total wages, number of full time equivalent employees, average annual earnings per full time employee and hourly earnings. I have estimated comparable data for 1945 and 1946 on the basis of the latest available information. Accurate data is not available at this time. These data are trnslted into costs per barrel of net production. In 1944 the reported estimate by the Department of Commerce indicates per barrel costs of wages and salaries was 10 cents per barrel over the 1941 average.

On the basis of the Petroleum Administration for War estimate for 1946 production of crude petroleum, and allowing for recent wage increases and the effects of the recent Executive order on wages and prices, I believe that the cost of wages and salaries in the production of crude petroleum may rise to 43 cents per barrel, a rise of about 17 cents per barrel over the 1941 average cost per barrel of company oil production, an increase of 40 percent.

In table 2 are examples of some increases in material costs in Illinois and Indiana between 1940–41 and 1945. These actual costs are, I believe, representative of those which prevailed throughout the industry in the periods stated but do not include recent and proposed increases in labor and steel.

In the short time since February 14, it has not been possible to obtain the views of all this committee as to the effect of the President's wage and price order on the crude petroleum production industry. I am sending a copy of this letter to each member of the committee. I shall be glad to inform you as to their reactions.

The members of this committee are unanimous in the request that their recommendations transmitted to your office on February 11, 1946, be given immediate consideration to the end that those recommendations be made effective at the earliest possible moment.

Respectfully yours,

James V. Brown, *Secretary.*

Table 1.—*Wages and salaries in crude petroleum and natural gas production per net barrel of crude produced*

Year	Net production (85.5 percent of gross) (thousands of barrels) [1]	Wages and salaries		Number of full-time equivalent employees (thousands) [2]	Average annual earnings per full-time employee [2]	Hourly earnings [2]
		Total (millions of dollars) [2]	Per barrel of unit production [3]			
1936	940,232	$287	$0.30	180	$1,594	$0.768
1937	1,093,682	333	.32	192	1,734	.827
1938	1,038,274	333	.29	192	1,734	.844
1939	1,081,543	315	.29	187	1,684	.873
1940	1,156,998	336	.30	196	1,714	.881
1941	1,198,905	363	.26	204	1,779	.934
1942	1,185,581	354	.32	183	1,934	1.014
1943	1,287,299	409	.35	178	2,298	1.100
1944	1,434,479	[4] 509	.36	198	2,571	1.151
1945	1,463,709	[5] 540	.37	200	2,700	1.200
1946	1,304,871	[5] 567	.43	210	2,700	1.350

[1] Based on Bureau of Mines reported gross production, except 1946, which is based on PAW estimate for that year.
[2] Source: U. S. Department of Commerce.
[3] Calculated.
[4] Preliminary estimate, U. S. Department of Commerce.
[5] All 1945 and 1946 figures are estimated on basis of presently available data.

TABLE 2.—*Examples of some increased costs in Illinois and Indiana*

	Cost in 1940–41	Cost in 1945
7-inch olive-drab 17-pound 10-thread casing	75 cents per foot	83 cents per foot.
Sake of cement	85 cents	95 cents.
Tret-O-Lite	$100 per drum	$110 per drum.
Drilling contract	$2.75	$3.75 plus drilling mud in excess of $200 plus all moving costs in excess of $1,000.
Circulating, coring, etc	$10 per hour	$12 per hour.
10-by 15-foot steel-welded tank	$394.06	$413.68.
Ford pick-up	$695	$1,057.97.
Teamster	80 cents per hour	$1.30 per hour.
Roustabout	$32.31 per week	$52 per week.
Pumper	$33.46 per week	$54.08 per week.
Pumper foreman	$200 per month	$292 per month.
Head roustabout	$165 per month	$230 per month.
7-inch Baker float collar	$41.64	$44.99.
¾ No. 55 sucker rod	12 cents per foot	14 cents per foot.
Yellow pine lumber	$55 per M feet	$60 per M feet.
Hauling	$7.50 per hour	$9.50 per hour.
Sand	$1.40 per yard	$2 per yard.
Bomb, etc., for shot	$156.60	$201.50.
Filling pits	$50	$95.
Drilling contract [1]	$3 per foot	$3.25 to $5.40 per foot.
Circulating [1]	$8.33 per hour	$10 per hour.
Shut-down time [1]	$25 per day	$25 per day.
Cable tools [1]	$115 per day	$150 per day.
Tractor contractor [1]	$5 per hour	$7.50 per hour.
Trucking contractor [1]	$3.15 per hour	$4 per hour.
7-inch 24-pound casing sc. hd.[1]	88 cents	$0.901.
Lumber, yellow pine [1]	$50	$82.25.
Cement, regular [1]	85 cents	95 cents.
⅝-foot sucker rods, No. 55 [1]	$10.10	$10.50.
Pontiac sedan [2]	$1,030.24	$1,667.70.
Dodge sedan [3]	$1,095	$1,785.33.
Ford pick-up [2]	$673.08	$1,075.79.
Gas [2]	5 cents per M	10 cents per M.
Dehydro formula [1]	$2 per gallon	$2.20 per gallon.
Drilling contract [2]	$3 per foot	$3.50 per foot.
Cable tool [2]	$100 per day	$150 per day.
Coring-Schlumberger [2]	$225 per day	$350 per day.
Salt-water pit, 150 by 150 by 4½ [1]	$490	$603.60 plus road time.

[1] Kansas. [2] Oklahoma. [3] Texas.

OFFICE OF PRICE ADMINISTRATION

For immediate release: Tuesday, March 5, 1946

Ceiling prices for crude oil, at the producer level, will be raised 10 cents a barrel shortly, the Office of Price Administration announced today.

Refiners will be required to absorb the increase, and therefore, no price changes to the public are contemplated at this time. However, such absorption and its effect on prices to the public for petroleum products will be the subject of meetings between OPA and the National Refiners' Industry Advisory Committee, to begin at once.

Official action granting the 10-cent increase to producers, the first industry-wide raise granted by OPA to crude-oil producers, will become effective some time during the last half of March.

The increase, based on a prospective 1946 production of 1,500,000,000 barrels of crude oil, will mean an additional $150,000,000 to crude-oil producers annually. The national average selling price for crude oil at present is approximately $1.23 a barrel.

OPA said the increase will be authorized under the agency's earnings standard and as such is mandatory under the Price Control Act.

Data submitted by OPA's National Crude Oil Industry Advisory Committee show that higher costs of producers for wages, finding and developing crude oil, deeper drilling, and production cut-backs have reduced their earnings to the extent that a large segment of the industry will not be able to maintain 1936–39 base earnings without a price increase.

Information available at this date to OPA justifies an immediate increase of at least 10 cents a barrel to keep industry earnings generally from falling below the 1936–39 level, the agency said. However, a further cost study will be made at once, and if this study shows the 10-cent increase is inadequate to

maintain the industry's 1936–39 earnings, a further increase will have to be made.

The National Crude Oil Industry Advisory Committee recommended an industry-wide increase of 35 cents a barrel.

OPA said the committee based this recommendation on so-called replacement costs, computing replacement values by relating current capital charges to the discovery of new oil reserves during the same year.

OPA said it is contrary to the agency's policy to base price increases on such replacement values. The 10-cent increase, however, is in line with the results shown by the industry's own accounting practice, which relates current operating costs to current production.

In stating that refiners will be required to absorb the price increase, OPA pointed out that the refining industry, like producers, is assured of earnings equal to the 1936–39 level under the law. If the industry can show that the increase is pulling its earnings below the 1936–39 level, the agency must act to correct that condition.

Refiners at present are generally producing all major products except gasoline at capacity. In addition, demand for export is increasing.

For these two reasons, OPA said, small high-cost refiners who experience operating losses because of the full absorption requirement, may be able to benefit from individual adjustments of their ceiling prices for products sold either directly to industrial users or for export and which do not enter the general competitive field where an individual raising of prices is not practicable.

OPA said further that it is considering whether to continue in effect recent temporary price-ceiling increases allowed in most parts of the country on kerosene and heating oils, which are scheduled to expire either on April 30 or June 30, 1946. These increases, amounting to half a cent a gallon in the eastern seaboard, Gulf coast and Middle West districts, and three-fourths of a cent a gallon on the Pacific coast, do not apply to crude-oil producers, being only on the refined products of kerosene and heating oils.

OPA said that these increases have particularly helped the small high-cost refiners who in certain instances might find it dificult to absorb the 10-cent crude oil increase. It is possible, OPA said, that a determination of the over-all refiners' position will be available before the temporary increases expire.

NATIONAL CRUDE OIL INDUSTRY ADVISORY COMMITTTEE,
Washington 5, D. C., March 6, 1946,

To Members of National Crude Oil Industry Advisory Committee:

The Office of Price Administration action granting a 10-cent increase in crude petroleum ceiling prices to become effective sometime during the last half of March does not satisfy in full the recommendations of the National Crude Oil Industry Advisory Committee. This committee must make a further effort to obtain full recognition of the need for an adequate increase in crude petroleum price ceilings.

I have today sent the following telegram to Hon. Paul A. Porter, Price Administrator, urging him to make effective immediately and in full the recommendations of this committee which were transmitted to the Petroleum Price Executive, February 11, 1946.

"The 10-cent per barrel increase in crude petroleum ceiling prices announced March 5, 1946, by the Office of Price Administration is inadequate to maintain the industry's 1936–39 earnings according to Office of Price Administration standards and it is not sufficient to offset recent increases in costs of labor and steel prices. It will not provide a proper stimulant to bring about all the exploration and development efforts necessary to supply future consumer requirements for petroleum products. We again urge you to give full effect to the recommendation of this committee that the existing crude petroleum price ceilings be increased immediately throughout the United States an average of 35 cents per barrel and that the situation be reviewed with the aid and advice of this committee within a reasonable period thereafter to determine what is then necessary. Controlling policies previously formulated from levels above Fuels Division prevent full consideration our problem. We have asked permission to discuss these policies with you. Division Head advises us they are unable to get conference for us with you. I urge you see representative our committee for purpose this discussion earliest possible date. Continuance present price levels and controls will drive many independent producers out of business."

CHAS. F. ROESER, *Chairman,*
National Crude Oil Industry Advisory Committee.

REPORT OF NATIONAL CRUDE OIL INDUSTRY ADVISORY COMMITTEE (CREATED BY THE OFFICE OF PRICE ADMINISTRATION) TO THE OFFICE OF PRICE ADMINISTRATION ON THE COST OF FINDING, DEVELOPING, AND PRODUCING CRUDE PETROLEUM

Presented with recommendations of the committee in response to a request from the Office of Price Administration to obtain, analyze, and interpret petroleum costs data necessary in determining whether the prices of crude petroleum are generally fair and equitable.

NATIONAL CRUDE OIL INDUSTRY COMMITTEE (CREATED BY THE OFFICE OF PRICE ADMINISTRATION)

January 3, 1945—Washington 5, D. C.

Charles F. Roeser, *Chairman.*
Carl E. Reistle, Jr., *Vice Chairman.*
Russell B. Brown, *Counsel.*
James V. Brown, *Secretary and Treasurer.*

SUBCOMMITTEE ON COST OF FINDING, DEVELOPING AND PRODUCING CRUDE PETROLEUM

E. P. Potter, *Chairman.*
Charles F. Roeser (*ex officio*).
Russell B. Brown, *Counsel.*
Merle Becker.
J. P. Coleman.
W. B. Emery.
A. C. Rubel.
Carl E. Reistle, Jr.
James V. Brown, *Secretary.*

COMMITTEE MEMBERS

George S. Bays, consulting and research engineer, Stanolind Oil & Gas Co., Tulsa, Okla.
Merle Becker, vice president and controller, W. C. McBride, Inc., St. Louis, Mo.
D. Harold Byrd, president, Byrd-Forst, Inc., Dallas, Tex.
J. P. Coleman, petroleum economist, McCarty & Coleman, Wichita Falls, Tex.
Wilson B. Emery, vice president and manager of production (geologist), the Ohio Oil Co., Findlay, Ohio.
Richard Fenton, executive vice president, California Stripper Well Association, Los Angeles, Calif.
B. A. Hardey, chairman, Louisiana Mineral Board, Shreveport, La.
Edwin W. Hayes, Independence, Kans.
James W. Johnson, Consolidated Gas Co., Shelby, Mont.
J. P. Jones, Bradford, Pa.
Raymond B. Kelly, division manager (petroleum engineer), the Pure Oil Co., Olney, Ill.
Dana H. Kelsey, vice president, Sinclair Prairie Oil Co., Tulsa, Okla.
H. M. McClure, Alma, Mich.
W. H. Morgan, Long Beach, Calif.
Gilbert J. Mueller, vice president and director, Argo Oil Co., Denver, Colo.
John G. Pew, assistant to vice president and director, Sun Oil Co., Dallas, Tex.
E. P. Potter, treasurer and controller, Amerada Petroleum Corp., New York, N. Y.
E. B. Reeser, director, Barnsdall Oil Co., Petroleum Building, Tulsa, Okla.
Carl E. Reistle, Jr., general superintendent, production department (chief petroleum engineer), Humble Oil & Refining Co., Houston, Tex.
Charles F. Roeser, president, Roeser & Pendleton, Inc., Fort Worth, Tex.
Albert C. Rubel, vice president (petroleum engineer), Union Oil Co. of California, Los Angeles, Calif.
J. D. Sandefer, Jr., Breckenridge, Tex.
N. W. Shiarella, president (geologist), Miller & Shiarella, Owensboro, Ky.
Howard J. Whitehill, president and general manager, the Whitehill Oil Corp., Tulsa, Okla.

REPORT OF THE NATIONAL CRUDE OIL INDUSTRY ADVISORY COMMITTEE TO THE OFFICE OF PRICE ADMINISTRATION ON COST OF FINDING, DEVELOPING, AND PRODUCING CRUDE PETROLEUM IN THE UNITED STATES AND RECOMMENDATIONS WITH RESPECT TO THE ESTABLISHMENT OF FAIR AND EQUITABLE PRICES

INTRODUCTORY COMMENT

This report is presented to your Office pursuant to the purpose for which this committee was appointed, i.e. " * * * to aid the Office of Price Administration

in determining whether the prices of crude petroleum are generally fair and equitable."

This report is based upon data collected by the Office of Price Administration in the crude oil industry cost survey completed on June 30, 1945, which data were received by this committee, November 28, 1945, and upon data compiled by other governmental agencies or secured from other reliable sources.

SUMMARY OF CONCLUSIONS, FINDINGS, AND RECOMMENDATIONS

As a result of its study of the cost survey data, the committee has reached the following conclusions:

1. That the cost survey data, when properly analyzed and interpreted, are adequate for the purposes contemplated when the survey was undertaken.
2. That fair and equitable prices for crude petroleum cannot be determined from consideration of bookkeeping data alone.
3. That consideration of crude oil replacement cost data is not only justified but necessary if ceiling prices are to be generally fair and equitable.
4. That the present maximum ceiling prices for crude petroleum are not generally fair and equitable.
5. That existing crude petroleum maximum price ceilings are insufficient to permit the normal exploratory and development operations needed to provide adequate petroleum reserves in this country sufficient at all times to maintain a readily available supply of producible crude petroleum for national security and to meet the indicated military demands and the normal expansion in civilian and industrial requirements for petroleum products.

The committee's study of the data discloses that:

1. The average cost of finding, developing, and producing crude petroleum rose from $0.70 per barrel in the years 1936–39 to $1.60 per barrel in 1944, whereas gross income per barrel was $1.24 during 1944.
2. During the base period, 1936–39, the average excess of crude oil income over replacement cost was $0.45 per barrel but in 1944 replacement cost was $0.35 greater than gross income.
3. An average price of $1.99, exclusive of subsidy, would have been necessary in 1944 in order to have maintained the base period margin of $0.45 per barrel and, on the basis of replacement cost for that year, to have provided the industry with the funds required to replace the volume of oil produced with an equal volume of newly discovered and developed reserves.

The experience of the industry shows that several moderate increases are preferable to one large increase particularly in promoting stability. Therefore this committee recommends that existing crude petroleum price ceilings be increased immediately throughout the United States an average of 35 cents per barrel and that the situation be reviewed with the aid and advice of this committee within a reasonable period thereafter to determine what is then necessary.

The committee is convinced that this action is necessary in the national interest as a step toward establishing fair and equitable prices for crude petroleum and toward protecting the consumers of petroleum products against future scarcity values that may result from continuance of present inadequate prices of crude petroleum.

The basis and reasons for these conclusions with recommendations pertaining thereto, are set forth in detail hereunder.

FUNDAMENTAL POSITION OF THE OIL-PRODUCING INDUSTRY

This committee urges that careful study of the fundamental position of the oil-producing industry is a necessary prerequisite to any consideration of the adequacy of present crude oil prices. Therefore, certain fundamental data compiled and published by the Petroleum Administration for War and the Bureau of Mines are submitted below with the addition of certain ratios which this Commission considers to be extremely significant and relevant to the crude oil price problem.

TABLE 1.—*Fundamental position of crude oil producing industry*

[Millions of barrels]

Year	Gross production (Bureau of Mines)	New reserves discovered—gross (PAW)	Ratio—discoveries to production	Proved reserves, end of year (PAW)	Ratio—reserves to production
1914	266	219	0.82	7,320	27.52
1915	281	587	2.09	7,626	27.14
1916	300	750	2.50	8,076	26.92
1917	335	684	2.04	8,425	25.15
1918	357	452	1.27	8,520	23.87
1919	378	1,440	3.81	9,582	25.35
1920	443	811	1.83	9,950	22.46
1921	471	2,156	4.58	11,635	24.70
1922	558	913	1.64	11,990	21.49
1923	732	810	1.11	12,068	16.49
1924	714	599	.84	11,953	16.74
1925	763	345	.45	11,535	15.12
1926	772	2,000	2.59	12,673	16.42
1927	900	1,404	1.56	13,267	14.74
1928	902	2,105	2.33	14,470	16.04
1929	1,007	1,357	1.35	14,820	14.72
1930	898	5,482	6.10	19,404	21.61
1931	851	2,080	2.44	20,633	24.25
1932	786	540	.69	20,387	25.94
1933	905	626	.69	20,108	22.22
1934	908	1,880	2.07	21,080	23.22
1935	996	2,115	2.12	22,199	22.29
1936	1,100	1,627	1.48	22,726	20.66
1937	1,279	2,454	1.92	23,901	18.69
1938	1,214	2,115	1.74	24,802	20.43
1939	1,265	818	.65	24,355	19.25
1940	1,353	1,539	1.14	24,531	18.13
1941	1,402	1,269	.91	24,388	17.40
1942	1,387	840	.61	23,836	17.19
1943	1,505	936	.62	23,262	15.46
1944	1,678	659	.39	22,243	13.26

During the period 1914 to 1935, inclusive, new oil reserves discovered were approximately twice as great as the volume of oil produced. From 1936 to 1939, inclusive, the ratio of discoveries to production declined to 1.4 but from 1941 to 1941, inclusive, this ratio was only 0.6 and information now available indicates that new discoveries in 1945 also were substantially smaller than the volume of oil produced.

The Petroleum Administration for War has estimated that when price control became effective in January 1942 the industry's productive capacity was in excess of then current production by approximately 800,000 barrels daily; whereas during the last few months of the war, the production then necessary was over 300,000 barrels greater than the potential capacity within maximum efficient rates. These estimates indicate that potential productive capacity within maximum efficient rates, decreased approximately 400,000 barrels daily during the period of governmental price control. Furthermore, at the end of 1944, proved reserves were more than 2 billion barrels smaller than at the end of 1941.

A preponderance of the abnormal production required for war purposes was derived from flush fields which are still being drawn on very heavily to meet the current demand. Productive capacity can be maintained only by replacing flush production with a much greater volume of newly discovered and developed reserves. With the present division of output between flush and settled production, it is believed that the volume of newly discovered and developed reserves should be substantially greater than production to prevent further reduction in productive capacity.

The crude oil producing industry is one of the most important of all basic industries. The existence of other important industries and continuance of our present way of living depend upon the availability of plentiful and cheap supplies of oil products. Therefore, the maintenance of the productive capacity of the oil-producing industry and its proved underground reserves available for the future, is vitally essential to the national interest. Maintenance of productive capacity and proved reserves can be accomplished only by replacement of oil produced through the discovery and development of new fields.

In the past, increases in the price of crude oil have always stimulated exploration and discovery and thereby have resulted ultimately in lower product

prices to the consumer. The recent greatly expanded volume of exploratory activity was not sufficient to prevent impairment of proved reserves. The oil-producing industry cannot possibly maintain anything like its recent volume of replacement operations unless, through an increase in prices of oil, it is provided with the funds required for this purpose and given some expectation of deriving a reasonable profit from these operations, commensurate with the risk involved.

Consideration of the crude oil price problem must be preceded by a basic decision, i. e., whether, in the national interest, the crude oil producing industry should be subjected to further liquidation or whether prices should now be increased to a level which would permit it to operate on a "going concern" basis without further impairment of productive capacity and proved reserves available for the future.

The Office of Price Administration has rejected or ignored the recommendations for higher crude oil prices made by the Petroleum Administration for War and each of the several congressional committees which have studied the crude-oil price problem. All these recommendations were based primarily upon preventing impairment of productive capacity and proved reserves, by stimulating discoveries through the establishment of more adequate prices for crude oil. Continuance of the downward trend in discoveries, with further reduction of productive capacity and proved reserves, must inevitably lead to a scarcity value for crude petroleum. The policy followed by the Office of Price Administration with respect to crude oil prices therefore has contributed substantially toward creating a scarcity value for crude oil which ultimately must be borne by the consumers of oil products.

CRUDE PETROLEUM SUPPLY AND DEMAND

Published figures with respect to supply and demand are available through the third quarter of 1945. Estimates of supply and demand through 1946 have been made by the Petroleum Administration for War. These figures with resulting effect on stocks of oil above ground, are shown below:

TABLE 2.—*Crude petroleum demand and supply data 1941–46*

[Daily averages]

	Demand crude oil requirements (thousands of barrels)	Supply		Increase or decrease in stocks above ground (thousands of barrels)
		Crude oil production (thousands of barrels)	Crude oil imports (thousands of barrels)	
Actual:				
1941	4,033	3,842	139	(52)
1942	3,866	3,799	34	(33)
1943	4,146	4,125	38	17
1944	4,767	4,584	122	(61)
1945:				
First quarter	4,895	4,769	157	31
Second quarter	5,102	4,842	191	(69)
Third quarter	4,937	4,728	225	16
Preliminary: 1945: Fourth quarter	4,685	4,428	240	(17)
Estimated: 1946:				
First quarter	4,266	4,115	170	19
Second quarter	4,410	4,220	190	----------
Third and fourth quarters	4,400	4,195	200	(5)

( ) Indicates decrease.

Industry estimates of requirements for all petroleum products have been presented to the Senate Committee Investigating Petroleum Resources as follows:

	Barrels daily
1947	4,395,000
1948	4,650,000
1949	4,835,000
1950	4,955,000
1951–55	5,110,000
1956–60	5,455,000
1961–65	5,735,000

Mr. Robert E. Wilson, chairman of the board of Standard Oil Co. of Indiana, speaking for the industry before the Senate Committee Investigating Petroleum Resources, said:

"Petroleum supply is, over a period of time, highly sensitive to price, because price has a strongly stimulating effect on exploration, wildcat drilling, the development of remote fields, and methods of secondary recovery. The combined effect of these and related factors over a period of a few years can make a tremendous difference in the amount of oil which the country can produce."

He further stated:

"While we can be certain that rising prices could achieve a balance between domestic production and domestic demand for at least 20 years ahead, we cannot be certain just what price might be necessary to achieve this balance." These supply and demand data show that estimated crude oil requirements currently and through 1946 are substantially below the 1944 and 1945 actual war requirements.

Supply and demand are now in substantial balance and the reduced volume of crude production required in 1946 is a little smaller than productive capacity within maximum efficient rates.

A resumption in the normal upward trend in demand for petroleum products is expected. The larger demand expected cannot be met without substantial increase in productive capacity.

Many oil producers are unable to carry on their normal exploratory and development operations with income available under present crude oil price ceilings. These price ceilings provide no incentive for the risking of funds in replacement operations.

The importance of maintaining within this country, adequate reserves of petroleum and other natural resources, has been recognized by high officials of the Army and Navy as a necessity to the security of this Nation. The President of the United States, in his September 6 message to Congress, said:

"We must make a diligent effort to discover new deposits of the precious indispensable minerals upon which our national life is founded. One of the costliest lessons of our unpreparedness for this war was the great danger involved in depending upon foreign sources for supplies of war materials necessary in times of national emergency. The United States should never again permit itself to be placed in a position where its defense may be jeopardized by the fact that it has been cut off from the source of strategic raw materials."

This committee urges the Office of Price Administration to consider the importance of and the need for an immediate upward adjustment in the prevailing ceilings on crude petroleum to permit the petroleum industry to get on with the job of making a "diligent effort to discover new deposits" to replace the "startling depletion of our natural resources" which were "torn from the earth to fight a war, without regard to our future supplies." [Quotations from President's message, September 6, 1945.]

During the war, the Office of Price Administration apparently did not consider the effect of its price policy on future petroleum supplies but it must now realize that its present actions will greatly affect the ability of the oil-producing industry to meet urgently needed future requirements and to prevent future drastic increases in the prices of petroleum products.

PECULIARITIES OF THE CRUDE OIL PRODUCING INDUSTRY

The maintenance of inadequate crude oil price ceilings has resulted from the failure of your office to acknowledge the well-authenticated facts that certain inherent peculiarities do exist in the oil-producing industry as outlined below:

1. Because of conditions shown in table 1 and explained in subsequent comment the major activity of the oil-producing industry has always and necessarily been directed toward the replacement of oil produced through the discovery and development of new oil fields. Table 3 shows that the bulk of the industry's income has consistently been spent in efforts to discover new fields and the development of new fields discovered. Therefore, these operations are the major, normal operations of the oil-producing industry. A fair and equitable price for crude oil must be one that will permit the industry to carry on the

necessary volume of its major normal operations with some expectation of deriving a reasonable profit therefrom. The proportion of gross income spent for replacement operations, is shown below:

TABLE 3.—*Total expenditures for replacement operations of producers included in cost survey*

[Based on exhibit A]

	Expenditures for replacement operations (thousands of dollars)			
	Cost of productive oil wells completed (from line D2c)	Exploratory expenditures (from line D3c)	Total	
			Amount	Percentage of gross income shown on line C5
1936	196, 730	112, 631	309, 361	64. 9
1937	265, 720	138, 355	404, 075	66. 9
1938	220, 032	132, 180	352, 212	63. 7
1939	179, 281	113, 651	292, 832	56. 0
Average	215, 441	124, 204	339, 645	63. 0
1941	208, 030	130, 699	338, 729	52. 4
1942	143, 685	141, 266	284, 951	41. 7
1943	153, 358	175, 406	328, 764	41. 1
1944	263, 765	268, 380	352, 145	56. 7

The expenditure of the entire 1944 gross income for replacement operations alone would have been insufficient, on the basis of 1944 replacement cost, to have replaced the volume of oil produced with an equal volume of newly discovered and developed reserves.

2. In practically all other industries or businesses, the use of established accounting methods will disclose periodical figures for profit or loss which correspond very closely to the actual economic gain or loss for the period. The use of established accounting methods in the oil-producing industry does not and cannot be expected to disclose the periodical economic gain or loss. During the past few years, the reported bookkeeping profit resulted from liquidation of low cost reserves discovered in earlier years but these figures do not reflect the greatly increased cost of discovering and developing new fields. The recent and current very high replacement costs will not be adequately reflected in bookkeeping figures for some years.

3. There are three important and entirely separate trends resulting from different conditions or developments, which are tending inevitably toward higher crude oil costs

a. Normal long-term trend toward increase in wages and material prices which was aggravated by abnormal conditions caused by the war. Wages and material prices (particularly for steel) are now being established at levels substantially higher than those which prevailed prior to the war or even during the war.

b. Normal and steady increase in crude oil lifting costs over the life of all productive properties caused mainly by natural decline in output and the necessity of utilizing artificial lifting forces such as repressuring, pumping, etc.

c. Unavoidable long-term trend toward higher costs caused by (1) increasing difficulty in finding new oil fields; (2) virtual impossibility of finding prolific low cost fields like those discovered in earlier years; and (3) the increasingly greater depths at which oil is found. These conditions contribute toward increasing crude oil costs of all kinds, even lifting costs. This trend is of the utmost importance to the oil-producing industry because of the enormous volume of replacement operations which must be carried on continuously. The actual operation of this trend during the years covered by the cost study is shown by the results of drilling operations of the reporting producers.

TABLE 4.—*Wells completed by reporting producers*

[Based on exhibit A]

	Productive wells		Dry holes		
	Number (line A2a)	Average depth in feet (line A2b)	Number (line A3a)	Average depth in feet (line A3b)	Percentage of total completions
1936	6,332	3,544	701	3,852	10.0
1937	8,454	3,739	925	4,075	10.0
1938	6,643	3,862	852	4,460	11.4
1939	6,150	3,819	783	4,604	11.3
1941	6,962	3,957	1,066	4,518	13.3
1942	3,884	4,128	1,115	4,524	22.3
1943	3,511	3,930	1,316	4,623	27.3
1944	4,795	4,302	1,771	4,783	27.0

SUMMARY OF COMMITTEE'S STUDY OF COST SURVEY DATA

Adequacy of cost study—Appendix A

This committee's cost study (except with respect to bookkeeping cost and profit) is based upon data reported by 149 producers of crude oil, which in 1944 produced 52.1 percent of total domestic net production. The data reported by these producers is shown in exhibit A. The data considered understate crude-oil costs and overstate bookkeeping profits, particularly with respect to 1944, for the reasons set forth below:

1. The output of producers included in the cost study was 37 percent greater in 1944 than in 1941, whereas the output of producers not included in the study increased only 6 percent during the same period.

2. The data considered are heavily weighted by the integrated companies whose costs were smaller and profits larger than those of either the large or small independent producers whose returns are considered.

3. The data considered do not reflect the results of the thousands of small producers not considered in this study. As the average production and average production per well of such producers were much smaller than the averages of those considered, their costs undoubtedly were much larger and their profits (if any) were undoubtedly smaller than those of the producers considered in this study.

The data considered in this report unquestionably show lower costs (both replacement cost and bookkeeping cost) and larger profits than the average for the industry as a whole but nevertheless reveal certain facts and trends which show the present price of crude oil to be inadequate. The Office of Price Administration therefore can have no valid objection to consideration of this report.

Changes in reserve position of producers included in cost study—Appendix B

During the base period years, 1936–39, the reserves discovered and developed by producers included in the cost study, were both greatly in excess of their production, whereas during 1943 and 1944 there were substantial deficiencies.

Bookkeeping costs and profits—Appendix C

This committee's study of bookkeeping costs and profits is based upon consideration of complete bookkeeping figures submitted by 210 producers whose 1944 net production comprised 53.2 percent of total domestic net production.

Part of the costs charged off during the base period applied to the excesses of reserves discovered and developed over the volume of oil produced. Consequently, base period costs were overstated and profits understated. Conversely, in 1943 and 1944 costs are understated and profits overstated as, because of deficiencies in those years, it was necessary to draw on the excess of reserves discovered and developed in earlier years in order to meet production requirements.

Bookkeeping costs are understated and profits overstated for 1943 and 1944 for the following additional reasons:

1. Absence of provision to cover under-maintenance of properties which accrued during the past few years.

2. Loss of reserves otherwise recoverable caused by recent production in excess of maximum efficient rates.

3. Insufficient charges for amortization of capitalized cost of properties, during recent period of abnormal production, which reduced realizable value to a greater extent than in proportion to production of oil.

It is difficult to determine the amounts by which the bookkeeping figures should be adjusted to correct the several inaccuracies mentioned but these amounts undoubtedly would be very large, especially for 1944.

If an allowance were made to reflect the unfavorable experience of nonreporting small producers particularly in 1944 and to correct the inaccuracies explained above, the bookkeeping figures alone would undoubtedly show a substantial increase in crude-oil ceiling prices to be fully justified.

Crude-oil replacement cost—Appendix D

Crude-oil replacement cost per barrel has been determined by dividing all cash expenditures or costs incurred into three parts corresponding to the three distinct activities of the industry: (1) Operation of productive wells, (2) drilling of productive wells, and (3) exploring for oil. The costs of each of these activities are related to the volume of oil pertaining to each. Crude oil cost per barrel on a replacement basis, determined in this manner, is shown below:

TABLE 5.—*Analysis of total cost per barrel on replacement basis, gross income per barrel, and margin of gross income over replacement cost*

[Base on exhibit A]

	Operating cost (line D1c divided by net production shown on line B1)	Development cost (line D2c divided by reserves developed shown on line A2c)	Finding cost (line D3c divided by new reserves discovered from table 9)	Total replacement cost	Total gross income (line C5 divided by net production shown on line B1	Margin of gross income over replacement cost
1936	$0.262	$0.212	$0.180	$0.654	$1.129	$0.475
1937	.274	.213	.145	.632	1.219	.587
1938	.311	.201	.163	.675	1.184	.509
1939	.295	.191	.360	.846	1.072	.226
Average (unweighted)	.286	.204	.212	.702	1.151	.449
1941	.292	.199	.262	.753	1.171	.418
1942	.314	.218	.415	.947	1.214	.267
1943	.307	.296	.434	1.037	1.229	.192
1944	.308	.383	.907	1.598	1.244	[1].354

[1] Indicates deficit.

The foregoing table understates replacement cost for the industry as a whole because the data considered in this study are mainly those of the largest producers whose costs are smaller than the average for the industry and who had the bulk of the increase in production from 1941 to 1944.

The replacement cost data were developed through the consistent application of the same statistical method to the figures for each of the 8 years considered. It is maintained that the sharp upward trend in replacement cost cannot validly be questioned and that a very considerable excess of 1944 replacement cost over the price of oil likewise has been established conclusively.

Replacement cost versus bookkeeping cost—Appendix E

Simple examples contained in appendix E show that bookkeeping cost per barrel is utterly unrealistic when considered in relation to the changes in operating conditions that have actually occurred. Bookkeeping profits must be at least equally unrealistic. On the other hand, the replacement cost figures were determined in a manner specifically intended to reflect actual changes in conditions.

Appendix C shows that the reported bookkeeping figures (1) fail to reflect the unfavorable experience of the thousands of small producers not included in the cost survey (2) understate cost and overstate profit for 1944 in particular and (3) do not include adequate charges to cover deferred maintenance and amortization of capitalized cost of productive properties. Bookkeeping figures that are defective in these respects and which also fail to reflect actual changes in operating conditions, cannot properly be used as the basis for determining crude oil prices that are generally fair and equitable.

Consideration of current replacement cost in the determination of current crude-oil prices that are "generally fair and equitable," is not only justified but actually required by (1) the impossibility of using bookkeeping figures for this purpose, (2) the inherent peculiarities and complexities of the industry and (3) the increasingly adverse fundamental position of the industry caused by the downward trend in new discoveries. Regardless of all other factors affecting crude oil prices, a proper relationship between current replacement cost and current prices must be established in order to prevent further reduction in productive capacity and proved reserves available for the future.

Appendix E shows that there is no valid reason for the unwillingness of your Office to give consideration to current replacement cost in the determination of current crude-oil prices. On the contrary, the refusal of your Office to consider crude oil replacement cost data is in conflict with the intent and spirit of the Emergency Price Control Act.

CRUDE OIL PRICE INDICATED BY REPLACEMENT COST DATA

This committee does not suggest that crude-oil prices should be increased immediately to the level indicated by the replacement cost data, as other relevant factors must also be considered. Nevertheless, it is pertinent to consider the crude-oil price level indicated by the replacement cost data alone.

The following table shows the relationship between price of oil and replacement cost during the base period and during the four later years considered:

TABLE 6.—*Crude oil price per barrel needed to maintain normal (base period) margin above replacement cost*

[Based on exhibit A]

	Average 1936–39 (unweighted)	1941	1942	1943	1944
1. Average crude oil price	$1.097	$1.125	$1.168	$1,180	$1.184
2. Subsidy (last 5 months of 1944 only)					.019
3. Gas and other income	.054	.046	.046	.049	.041
4. Total income	1.151	1.171	1.214	1.229	1.244
5. Operating cost	.286	,292	.314	.307	.308
6. Margin over operating cost: Deduct	.865	.879	.900	.922	.936
7. Finding cost	.212	.262	.415	.434	.907
8. Development cost	.204	.199	.218	.296	.383
9. Total ventured in replacement operations	.416	.461	.633	.730	1.290
10. Margin after total replacement cost	.449	.418	.267	.192	[1] .354
11. Addition to average curde oil price needed to maintain base margin of 44.9 cents		.031	.182	.257	.803
12. Indicated crude oil price (totals of lines 1 and 11)		1.156	1.350	1.437	1.987

[1] Deficiency

This table shows that during the 1936–39 base period, crude-oil prices exceeded replacement cost by 44.9 cents per barrel. The maintenance of this margin in 1944 would have required an average price for crude oil of $1.987 per barrel.

The following table shows the gross income that would have been needed to maintain the base period margin of cash income over necessary expenditures and to have prevented the deficiencies that occurred during 1943 and 1944 in both reserves discovered and reserves developed.

TABLE 7.—*Crude oil price needed to maintain proved and developed reserves and to maintain normal (base period) margin per barrel*

[Experience of producers included in cost study based on exhibit A. Thousands of dollars]

	Average 1936–39	1941	1942	1943	1944
1. Gross income	$339,334	$645,902	$682,652	$799,076	$938,138
Less expenditure:					
2. Operating	133,915	161,189	176,813	199,437	232,651
3. Development	215,441	208,030	143,685	153,358	263,765
4. Exploratory	124,204	130,699	141,266	175,406	268,380
5. Total expenditure	473,560	499,918	461,764	528,201	764,796
6. Balance [1]	65,774	145,984	220,888	270,875	173,342
7. Excess reserves (from table 10)					
a. Discovered	207,713	[2] 52,456	[2] 221,831	[2] 246,209	[2] 457,868
b. Developed	585,540	493,572	97,124	[2] 132,760	[2] 66,313
8. Excess reserves valued at replacement cost shown in table 5:					
a. Discovered (at finding cost for year)	24,143	[2] 13,743	[2] 92,060	[2] 106,855	[2] 415,286
b. Developed (at development cost for year)	120,218	98,221	21,173	[2] 39,297	[2] 25,398
c. Total	144,361	84,478	[2] 70,887	[2] 146,152	[2] 440,684
9. Adjusted balance (line 6 plus line 8–c)	210,135	230,463	150,001	124,723	[2] 267,342
10. Net production	468,343	551,500	562,243	650,385	754,289
11. Adjusted balance per barrel	.449	.418	.267	.192	[2] .354
12. Addition in value needed to replace reserves produced and maintain base margin	----------	.031	.182	.257	.803
13. Crude oil price per barrel	----------	1.125	1.168	1.180	1.184
14 Indicated price per barrel	----------	1.156	1.350	1.437	1.987

[1] Balance before Federal and State income and excess profits taxes, interest, etc.
[2] Denoted deficiency.

This table also indicates that a price of $1.987 per barrel would have been required in 1944. However, this table contemplates merely preventing reduction in reserves proven and reserves developed whereas, as previously mentioned, new discoveries must be substantially greater than the volume of oil produced in order to prevent further impairment of productive capacity.

CHANGES IN CONDITIONS SINCE 1944

The changes in conditions in recent months and further changes in prospect for 1946 result primarily from termination of the war.

The principal effect of termination of the war is the substantial curtailment of crude oil output that has already occurred and the further reduction that is in prospect within the next year. The increased gross income from recent abnormal production was insufficient to provide funds required for exploratory operations on a scale large enough to replace oil produced with an equal volume of newly discovered reserves and newly developed reserves.

The decrease in income caused by curtailed output cannot possibly be offset by a proportionate reduction in crude oil cost and expenses and further impairs the ability of the industry to carry on necessary exploratory and development operations. This decrease in volume will also cause an unavoidable increase in cost per barrel and reduction of profit.

The industry must also cope with cost increases caused by—

1. Normal increase in per barrel cost of operating productive wells resulting primarily from natural decline but now aggravated by recent abnormal production, which "skimmed the cream" from the value realizable from proved reserves.

2. Normal increase in costs of all kinds attributable to conditions causing long-term trend toward higher crude oil costs.

3. Increases in costs affecting all industries, with material prices and basic hourly wages now being permanently established at substantially higher levels than obtained prior to the war or even during the war.

The favorable factors which will tend toward cost reduction are—

1. Greater efficiency and effectiveness of producing organizations resulting from return of employees (especially scientific and technical personnel) from military service.

2. Availability of materials and supplies of prewar quality or better.

While these favorable factors are extremely important, they are imponderables which are not now susceptible of statistical evaluation.

It now seems certain that bookkeeping costs were larger and bookkeeping profits smaller in 1945 than in 1944, and that further adverse changes are in prospect for 1946. It now seems certain also that replacement costs were higher in 1945 than in 1944. There have been no developments to date that would indicate the possibilities of decline in replacement cost in 1946.

RECOMMENDATION FOR HIGHER CRUDE OIL PRICES

It is the considered opinion of this committee that further reduction in productive capacity and proved reserves can be prevented only through establishing within the relatively near future, a proper relationship between crude oil prices and replacement cost, which will furnish the industry with the funds required for replacement operations and with some expectation of deriving a reasonable profit from funds ventured for this purpose.

The replacement cost data indicate a price for crude oil that is greatly in excess of present prices. Because of this and the virtual certainty that crude oil costs increased further in 1945, and, with reduced output, will undoubtedly increase still more in 1946, there is no present necessity for attempting to project the crude-oil cost data into 1945 and 1946.

The replacement cost data for 1944 as interpreted in tables 6 and 7 indicate that crude-oil prices should be increased to an average of $1.987 per barrel. However, the experience of the industry shows that several moderate increases are preferable to one large increase particularly in promoting stability. Therefore it is recommended that average crude oil ceiling prices be increased immediately by 35 cents per barrel and that the situation be reviewed with the aid and advice of this committee within a reasonable period thereafter to determine what is then necessary.

This committee believes that an immediate price increase as recommended will tend to reduce crude oil costs through stimulating exploratory activity and discoveries. If this proves to be correct, the resulting decrease in cost combined with the effect of other factors tending to reduce cost, may obviate the necessity for further price increase, but this of course, would have to be determined from time to time as the situation develops.

Respectfully submitted.

National Crude Oil Industry Advisory Committee: George S. Bays; Merle Becker; D. Harold Byrd; J. P. Coleman; Wilson B. Emory; Richard Fenton; B. A. Hardey; Edwin W. Hayes; James W. Johnson; J. P. Jones; Raymond B. Kelly; Dana H. Kelsey; H. M. McClure; W. H. Morgan; Gilbert J. Mueller; John G. Pew; E. P. Potter; E. B. Reeser; Carl E. Reistle, Jr.; Charles F. Roeser; Albert C. Rubel; J. D. Sandefer, Jr.; N. W. Shiarella; Howard J. Whitehill; James V. Brown, secretary; and Russell B. Brown, counsel.

Subcommittee on Cost of Finding, Developing and Producing Crude Petroleum: Merle Becker; J. P. Coleman; W. B. Emory; E. P. Potter; Carl E. Reistle, Jr.; Charles F. Roeser; A. C. Rubel; James V. Brown, secretary; and Russell B. Brown, counsel.

APPENDIX A. ADEQUACY OF COST SURVEY AND COVERAGE OF INDUSTRY

The producers which returned crude production cost reports were classified by the Office of Price Administration as follows:

Class	Segments			Total
	Major	Independent		
		Large	Small	
1	30	19	62	111
2	1	2	35	38
3	0	1	37	38
4	0	2	21	23
5	2	5	18	25
6	0	0	10	10
7	0	1	23	24
8	0	0	12	12
Total	33	30	218	281

The classes are identified as follows:

		Code
Period:	1936–39	1
	1941–44	2

Explanation of class code

Fully matched data, requested by both OPA and the Industry Advisory Committee (secs. A, B, C, D, E, F, H, complete):	
Full period 1936–44	1
Partial period operation	2
Matched data requested by OPA only (secs. B, C, E, F, H, only complete):	
Full period 1936–44	3
Partial period operation	4
Matched data requested by Industry Advisory Committee only (secs. A, B, D only complete):	
Full period 1936–44	5
Partial period operation	6
Unmatched data (cannot be related with any other data without specific matching):	
Full period 1936–44	7
Partial period operation	8

Explanation of segment code

Integrated company	1
Large independent (net production in 1944 over 1,000,000 barrels)	1
Small independent (net production in 1944 under 1,000,000 barrels)	4

NOTE.—Originally code 3 was assigned to ordnance companies but for simplification of tabulations the few companies have been reclassified to code 4.

This committee was created and a study of the cost of finding, developing, and producing crude petroleum on a national basis was initiated, at the suggestion of the House Small Business Committee and representatives of the industry.

The Small Business Committee suggested that: "Due to the great number of firms engaged in crude-oil production, the study should not attempt to include reports from all firms in the industry."

It has been estimated by governmental agencies that there are 18,000 to 20,000 oil producers. The House Committee suggested a procedure that would limit the study to a small number of these producers.

The Office of Price Administration received reports from 281 producers representing 56 percent of the total 1944 production. The final sample list included approximately 700 large, medium, and small producers from various areas in the United States considered representative of all the producing areas. The selection of these producers was made by the Office of Price Administration. This committee cooperated by assisting the Office of Price Administration in determining, where known, whether or not the selected producers were representative and in urging those selected to furnish the requested cost data. Many producers were unable to furnish data suitable for accounting analysis due to lack of adequate personnel or records.

The composition of the original sample list, the revised list, and the number of responses are shown below:

	Original list	Surveyed list as used after deletion, duplications, etc.	Responses
Major and integrated companies [1]	20	82	33
Large independents	29	61	30
Medium and small independents	486	557	218
Total	535	700	281

[1] Each subsidiary considered as a separate producer.

Obviously, a 100-percent response from all of those whose received questionnaires would still be less than 4 percent of the total number of oil producers in the United States. Judged by experience in other cost surveys, no high percentage could reasonably be expected to respond from any given number of producers selected. Responses were received from 40 percent of the producers which received questionnaires. The percentage of return was large and this committee considers the response very satisfactory and indicative of considerable interest in the survey.

It is the considered judgment of this committee after careful consideration of: (1) the suggestions of the House Small Business Committee as to the number of oil producers to be surveyed; (2) the originally suggested 90-day limit within which to complete the survey; (3) the fact that the original plan contemplated sending out questionnaires to only from 300 to 500 oil producers; (4) that the questionnaire was extremely complex, covering a period of 8 years' operations; (5) that many firms were handicapped by the absence of personnel serving in the armed forces; (6) that the period allowed, April 11, 1945, to June 30, 1945, only 80 days, is a short period within which to prepare a complex report covering 8 years' operations; (7) that a large number of those to whom questionnaires were sent were very small oil producers, many of whom informed the committee that they were unable to complete the forms; (8) that small oil producers generally are unable, because of inadequate records, to furnish cost data suitable for accounting analysis; that the cost and statistical data obtained from oil producers which your Office furnished this committee on November 28, 1945, by aggregate totals, identified as classes 1 to 8, inclusive, further segregated by segments 1, 2, and 4, contain sufficient data, when given competent analysis and interpretation, to reflect the trend in, and the average costs of finding, developing, and producing crude petroleum.

Data used in study by committee

The committee's study of the data has been concentrated primarily on the tabulations of those returns in classes 1 and 2. Tests of figures reported for classes 1 to 6, inclusive, show that inclusion of other usable returns in the data considered would not materially affect the results.

The totals of returns in classes 1 and 2 are summarized on exhibit A attached hereto. The status of these producers as to 1944 production is shown below:

	Integrated companies (regardless of size)	Reporting producers		Total
		Large independent producers (with 1944 net production over 1,000,000 barrels	Small independent producers (with 1944 net production less than 1,000.000 barrels)	
Number of producers	31	21	97	149
1944 net production volume (thousands of barrels)	660.772	74,257	19,260	754,289
Percentage of total domestic	45.7	5.1	1.3	52.1
Percentage of total for segment [1]	76.1	25.7	6.7	52.1

[1] Based upon division of total production among segments as suggested by OPA as follows: Integrated companies, 60 percent; large independent producers, 20 percent; small independent producers, 20 percent.

These percentages are arbitrary. The committee believes that the true percentages would reflect a lower percentage for small independent producers indicating a greater coverage of this segment by the survey.

The coverage of the entire industry represented by returns in classes 1 and 2 is shown in the following table:

TABLE 8.—*Coverage of industry, classes 1 and 2 combined*

	1936–39	1941	1942	1943	1944
Average number of wells producing	96,237	105,646	109,935	111,638	114,461
Percentage of total for entire domestic industry	26.3	26.5	27.2	27.4	27.9
Number of productive wells completed during period	27,579	6,962	3,884	3,511	4,795
Percentage of total for entire domestic industry	36.0	35.8	36.9	36.1	36.8
Number of dry holes completed during period	3,261	1,066	1,115	1,316	1,771
Percentage of total for entire domestic industry	13.5	15.7	20.1	20.9	25.3
Net company working interest domestic crude oil produced (thousands of barrels)	1,873,370	551,500	562.243	650,385	754,289
Total domestic crude oil produced by reporting companies	2,196,231	642,544	654,827	757,474	874,902
Percentage of total for entire domestic industry	45.2	45.8	47.2	50.3	52.1

The coverage of the entire industry and each of the three segments, is as large as originally agreed upon with Mr. W. Page Keeton (former price executive, Fuel Division of the Office of Price Administration) prior to the commencement of the cost survey.

The data considered are heavily weighted by the reports of integrated companies, whose costs were smaller and profits larger than those of either group of independent producers, as shown below for 1944:

	Integrated companies	Large independents	Small independents	Total
Bookkeeping cost per barrel (unadjusted)	$0.866	$1.121	$1.224	$0.900
Bookkeeping profit as percentage of net fixed assets and inventories	15.7	7.7	3.3	14.5
Gross income minus expenditures for operation, development and exploration, shown as a percentage of gross income	19.6	14.4	−1.2	18.5

The net production as reported by producers in classes 1 and 2 is compared below with total domestic net production:

[Thousands of barrels]

	Total domestic net production	Reported in production		All other production
		Producers in operation entire period (class 1)	Producers in operation less than entire period (class 2)	
1936	940, 232	422, 556		517, 676
1937	1, 089, 704	490, 649	4, 922	594, 133
1938	1, 032, 542	452, 698	14, 365	565, 479
1939	1, 082, 264	473, 551	14, 629	594, 084
1941	1, 204, 626	533, 704	17, 797	653, 125
1942	1, 191, 655	540, 737	21, 506	629, 412
1943	1, 293, 562	632, 051	18, 334	643, 177
1944	1, 447, 247	736, 700	17, 589	692, 958
Increase 1941–44 (percent)	20. 14	38. 03	−1. 17	6. 10

The increase in unadjusted bookkeeping profit of these producers resulted directly from the very large increase in their production which compares with a relatively negligible increase in output of all other producers.

The relationship of the producers considered and those not included in the study to the entire industry, is shown below:

	Producers considered	Other producers	Entire industry
Number of producers	149	17, 851	18, 000
Productive wells operated (1944)	114, 461	296, 373	410, 834
1944 net production:			
Volume (thousands of barrels)	754, 289	692, 958	1, 447, 247
Average per producer (barrels)	5, 062, 000	39, 000	80, 000
Average per well (barrels)	6, 590	2, 338	3, 523

Consideration of the several preceding tabulations shows conclusively that the data considered herein show lower costs and larger profits than the average for the industry as a whole. Nevertheless the data considered reveal certain facts and trends which show the present price of crude oil to be inadequate.

Appendix B. Changes in Crude Oil Reserve Position of Producers Included in Cost Study

It is assumed herein that the reporting producers owned that part of new reserves discovered each year which was in relation to their share of total domestic net production for the same year. This assumption is believed to be entirely reasonable and conservative as it is known that relatively, they drilled a considerably smaller number of exploratory wells than the producers not included in the study. The portion of new discoveries of the producers considered has been computed as shown below:

TABLE 9.—*New discoveries of the producers included in cost study*

[Thousands of barrels]

	Total new discoveries estimated by PAW (from table 1)	Less average royalty of 14.323 percent disclosed by cost survey data	Net new discoveries of the entire industry	Net production of producers included in study as a percentage of total domestic net production	Discoveries of producers included in study
1936	1,627,000	233,035	1,393,965	44.8	624,496
1937	2,454,000	351,486	2,102,514	45.2	950,336
1938	2,115,000	302,931	1,812,069	44.9	813,619
1939	818,000	117,162	700,838	45.0	315,377
Average	1,753,500	251,154	1,502,346	45.0	676,056
1941	1,269,000	181,759	1,087,241	45.9	499,044
1942	840,000	120,313	719,687	47.3	340,412
1943	936,000	134,063	801,937	50.4	404,176
1944	659,000	94,389	564,611	52.5	296,421

The relationship between production and the new reserves discovered and developed by producers considered is extremely significant.

TABLE 10.—*Excess of reserves discovered and developed over volume of oil produced*

[Thousands of barrels]

	Net production (from line B1 of exhibit A)	Reserves discovered (from table 9)	Reserves developed (line A2c of exhibit A)	Excess of discoveries over production	Excess of reserves developed over production
1936	422,556	624,496	928,537	201,940	505,981
1937	495,571	950,336	1,250,389	454,765	754,818
1938	467,063	813,619	1,095,911	346,556	628,848
1939	488,180	315,377	940,695	(172,803)	452,515
Average	468,343	676,056	1,053,883	207,713	585,540
1941	551,500	499,044	1,045,072	(52,456)	493,572
1942	562,243	340,412	659,367	(221,831)	97,124
1943	650,385	404,176	517,625	(246,209)	(132,760)
1944	754,289	296,421	687,976	(457,868)	(66,313)

( ) Denotes deficiency.

During earlier years the reserves discovered and developed were both greatly in excess of production whereas during 1943 and 1944 there were substantial deficiencies.

APPENDIX C. BOOKKEEPING COSTS AND PROFITS

The totals of costs charged off as reported in line 7, section E, of the returns, cannot properly be designated as "historic cost" and are referred to herein as "bookkeeping cost" in the absence of any more descriptive term. The term "bookkeeping cost per barrel" represents total costs charged off divided by total net production. The term "bookkeeping profit" is used in referring to the difference between gross income reported in line 5, section C, and total costs reported in line 7, section E, of the returns. (See exhibit A.)

This committee has thoroughly studied the bookkeeping costs reported and the indicated bookkeeping profits, with a view to determining the degree of significance possessed by these figures. An analysis of the tabulations for all returns which reported complete bookkeeping figures (designated by your Office as classes 1, 2, 3, and 4) reveal certain significant facts as shown below:

TABLE 11.—*Bookkeeping costs and profits, reported by producers in classes 1, 2, 3, and 4*

	Producers considered				Producers not included	Entire industry
	Integrated companies	Large independent	Small independent	Total		
Number of producers	31	24	155	210	17,790	18,000
Productive wells operated (1944)	87,104	17,599	9,758	114,461	296,373	410,834
1944 net production:						
Volume (thousands of barrels)	660,772	79,771	29,169	769,712	677,535	1,447,247
Average per producer (barrels)	21,315,000	3,324,000	188,000	3,665,000	38,000	80,000
Average per well (barrels)	7,586	4,533	2,989	6,725	2,286	3,523
Percentage increase over 1941 output				37	6	20
Percentage of total domestic production	45.7	5.5	2.0	53.2	46.8	100.0
Percentage of total production for respective segments on 60–20–20 basis	76.1	27.6	10.1			
1944 bookkeeping results:						
Bookkeeping cost per barrel	$0.866	$1.141	$1.246			
Bookkeeping profit as a percentage of net fixed assets plus inventories	15.7	6.7	2.1			

This committee believed originally that weighting (or "blowing up") the figures for each of the three segments, would indicate with some accuracy, the experience of the entire industry with respect to bookkeeping costs and profits. However, it is obvious from careful study of the foregoing tabulation, that the reporting producers constitute the more successful half of the oil-producing industry, and that any weighting of reported data only, would indicate much lower costs and larger profits than actually experienced by the industry as a whole.

Table 11 shows that:

The largest producers have the smallest bookkeeping costs and the largest reported profits. The results of weighting the reported data would not reflect the unfavorable experience of the thousands of small producers not included in the survey, whose average annual production and average production per well were much smaller than the corresponding figures for even the producers classified as "small independent" whose experience was much less favorable than that of either of the other two segments. It is apparent, therefore, that the nonreporting producers had much larger costs and much smaller profits (if any) than reported even by the "small independent producers" whose returns are included in the study.

The output of producers included in the study was 37 percent greater in 1944 than in 1941, whereas the output of producers not considered increased only 6 percent during the same period. The reported data therefore would obviously indicate lower costs and larger profits than the average for the entire industry, with respect to 1944 in particular.

Table 11 shows conclusively that the reported bookkeeping data are misleading in failing to reflect the unfavorable experience of the less successful half of the industry.

During the base period 1936–39, reserves discovered and reserves developed by the reporting producers in classes 1 and 2 averaged 207,713,000 barrels and 585,540,000 barrels respectively, in excess of the volume of oil produced by them. The reverse of this condition obtained in 1944 when there were deficiencies in reserves discovered and reserves developed of 457,868,000 barrels and 66,313,000 barrels, respectively.

Some elements of cost charged off during the base period actually applied to the reserves discovered and developed which were in excess of the production during that period. Consequently, base period costs are overstated and profits understated. Conversely, during 1943 and 1944 costs are understated and profits overstated as, because of deficiencies in those years, it was necessary to draw on the excess of reserves discovered and developed in earlier years in order to meet production requirements.

The elements of cost referred to as partially applicable to excesses of reserves discovered and developed during the base period are part of intangible drilling costs charged to expense, part of exploratory costs and part of the general overhead applicable to exploratory and development operations. The exact amounts involved are indeterminable but it is known that they would aggregate a very substantial sum.

During 1944 in particular, bookkeeping costs were understated and profits overstated for the following additional reasons:

1. Operating costs reported include no provision to cover undermaintenance of properties caused by shortages of manpower and materials, although the cost of making good such undermaintenance actually relates to oil produced during the period when the undermaintenance accrued.
2. A substantial volume of oil was produced in excess of maximum efficient rates causing irrecoverable loss of part of the reserves which otherwise could be profitably produced.
3. Charges in amortization of capitalized cost of productive properties (generally computed under the unit-of-production method) were insufficient, as recent abnormal production reduced the value ultimately realizable from productive properties to a much greater extent than the reduction in reserves of such properties. In other words, the abnormal production skimmed the cream from the value realizable from proved reserves.

It is difficult to determine accurately the amounts involved with respect to the understatement of costs caused by the factors mentioned above, but it is known that they, too, would aggregate a very large sum.

This committee is confident that, if allowance were made to reflect more fully the unfavorable experience of the nonreporting small producers and accurately to eliminate the distortions explained above, the bookkeeping figures alone would show a substantial increase in crude oil ceiling prices to be fully justified.

Appendix D. Computation of Replacement Cost Per Barrel

Method of computing replacement cost

The computation of current replacement cost must be based on consideration of total cash expenditures or costs incurred, rather than bookkeeping charges.

The statistical procedure adopted by this committee for the determination of replacement cost per barrel, involved the division of all expenditures or costs into three parts, corresponding to the three distinct activities of the oil-producing industry, namely:

1. Operation of productive wells.
2. Drilling of productive wells.
3. Exploring for oil.

The costs of each of these activities, including an appropriate part of general overhead, must be dealt with separately, as operating costs relate exclusively to volume of production, costs of productive wells relate exclusively to volume of reserves recoverable from such wells, while exploratory costs relate exclusively to the volume of oil found or to be found as a result thereof. The approximate replacement cost is determined as outlined below:

1. Total operating costs divided by volume of production will disclose operating cost per barrel.
2. The total cost of oil wells completed each year, divided by the volume of estimated oil reserves recoverable from such wells, will approximate development cost per barrel on a replacement basis.
3. The total of finding costs of the reporting producers divided by their proportion of the volume of new reserves discovered in the same year will furnish a reasonable approximation of finding cost per barrel on a replacement basis.

The sum of the three separate unit costs represents the approximate total cost per barrel of finding, developing, and producing crude oil on a current replacement basis.

Summary of replacement cost

Replacement cost determined as explained is summarized below:

TABLE 12.—*Analysis of total cost per barrel on replacement basis*

[Computed from exhibit A]

	Operating cost (line D1c divided by line B1)	Development cost (line D2c divided by line A2c)	Finding cost (line D3c divided by new reserves discovered from table 9)	Total
1936	$0.262	$0.212	$0.180	$0.654
1937	.274	.213	.145	.632
1938	.311	.201	.163	.675
1939	.295	.191	.360	.846
Average (unweighted)	.286	.204	.212	.702
1941	.292	.199	.262	.753
1942	.314	.218	.415	.947
1943	.307	.296	.434	1.037
1944	.308	.383	.907	1.598

When this committee first suggested consideration of replacement cost data it believed, but could not know, that current replacement cost exceeded the current price of oil. This belief has now been confirmed by the factual data assembled.

The replacement cost data were developed through the consistent application of the same statistical method to the figures for each of the 8 years considered. Therefore, it is maintained that the sharp upward trend in replacement cost cannot validly be questioned and that a very considerable excess of 1944 replacement cost over the price of oil likewise has been established conclusively.

Detailed computation of replacement cost per barrel

The replacement cost figures shown in table 12 are explained hereunder both as to method of computation and reasons for increased cost in recent years.

Operating cost per barrel

TABLE 13.—*Computation of operating cost per barrel*

[Based on exhibit A]

Year	Operating cost (thousands of dollars)			Net production (thousands of barrels) (line B1)	Operating cost per barrel
	Direct (line D1a)	Overhead (line D1b)	Total (line D1c)		
1936	103,084	7,675	110,759	422,556	$0.262
1937	126,990	8,853	135,843	495,571	.274
1938	134,472	10,729	145,201	467,063	.311
1939	132,576	11,281	143,857	488,180	.295
Average	124,281	9,634	133,915	468,343	.286
1941	149,228	11,961	161,189	551,500	.292
1942	161,350	15,463	176,813	562,243	.314
1943	183,380	16,057	199,437	650,385	.307
1944	218,024	14,627	232,651	754,289	.308

TABLE 14.—*Productive wells, cost per well, and production per well*

[Based on exhibit A]

Year	Total operating cost (thousands of dollars) (line D1c)	Number of productive net wells (monthly average) (line A1)	Annual cost per well	Net production	
				Total (thousands of barrels) (line B1)	Average daily per well (barrels)
1936	110, 759	87, 738	$1, 262	422, 556	13. 2
1937	135, 843	92, 862	1, 463	495, 571	14. 6
1938	145, 201	100, 556	1, 444	467, 063	12. 7
1939	143, 857	103, 793	1, 386	488, 180	12. 9
Average	133, 915	96, 237	1, 392	468, 343	13. 3
1941	161, 189	105, 646	1, 526	551, 500	14. 3
1942	176, 813	109, 935	1, 608	562, 243	14. 0
1943	199, 437	111, 638	1, 786	650, 385	16. 0
1944	232, 651	114, 461	2, 033	754, 289	18. 0

Total operating cost does not include provision to cover undermaintenance of properties caused by shortages of manpower and materials during the past few years although the cost of making good such undermaintenance actually relates to oil produced during the period when the undermaintenance accrued.

Many fields recently were producing in excess of maximum efficient rates, causing irrecoverable loss of part of the reserves which otherwise could be profitably produced.

The increase in output per well resulted in a cost per barrel which obscures the much sharper increase in cost as shown by cost per well.

The reduced operating cost per barrel caused by abnormal output does not increase materially, if at all, the value ultimately to be realized from production of proved reserves, as abnormal production merely accelerates the normal increase in future operating costs, especially in causing installation of pumping equipment sooner than otherwise would be necessary. The abnormal production necessary to supply oil and products needed for the war effort has in effect "skimmed the cream" from the value realizable from proved reserves. This process has not been of benefit to the industry as it still must pay the penalty for abnormal production in the form of increased future operating cost.

Total replacement cost includes operating cost per barrel computed as shown in table 13 but with the knowledge that this cost component is understated for the several reasons outlined above. Operating cost as included in bookkeeping cost per barrel is also understated, for the same reasons.

Development cost per barrel

TABLE 15.—*Total cost of oil wells completed, with other pertinent data relating to such wells*

[Based on exhibit A]

	Development costs (thousands of dollars)			Oil wells completed		Estimated net oil reserves of productive wells completed [1]	
	Direct cost (line D2a)	Overhead (line D2b)	Total cost (line D2c)	Number of net wells (line A2a)	Average depth in feet (line A2b)	Total (thousands of barrels) (line A2c)	Average per well (barrels)
1936	184, 862	11, 868	196, 730	6, 332	3, 544	928, 537	146, 642
1937	250, 752	14, 968	265, 720	8, 454	3, 739	1, 250, 389	147, 905
1938	206, 250	13, 782	220, 032	6, 643	3, 862	1, 095, 911	164, 972
1939	167, 743	11, 538	179, 281	6, 150	3, 819	940, 695	152, 959
1941	194, 828	13, 202	208, 030	6, 962	3, 957	1, 045, 072	150, 111
1942	132, 668	11, 017	143, 685	3, 884	4, 128	659, 367	169, 765
1943	142, 186	11, 172	153, 358	3, 511	3, 920	517, 625	147, 430
1944	248, 372	15, 393	263, 765	4, 795	4, 302	687, 976	143, 478

[1] The estimated oil reserves used in determining development cost on a replacement basis are the same as the estimated reserves used in determining items representing a large portion of bookkeeping cost, i. e., depletion, amortization of intangible drilling cost charged to capital account, and depreciation of tangible equipment where computed on the customary "unit of production" method.

During the past few years the number of productive wells completed decreased for many reasons, including:

1. Requirement of Petroleum Administration for War, effective December 23, 1941, that fields generally be developed with spacing of not more than one well to 40 acres, in order to utilize available materials to best advantage.
2. Lack of proved locations caused by unsuccessful exploratory operations.
3. Manpower and equipment shortages.
4. Insufficient cash resources.
5. Absence of incentive in the form of a reasonable expectation of profit.
6. Liquidation of many independent producers through sale or otherwise.

Average oil reserves per well have not decreased materially but the reserves reported for recent completions represent generally the estimated recovery from the first well completed on 40-acre tracts under the Petroleum Administration for War drilling restriction. Any subsequent closer spacing would result in smaller reserves per well as it is known that recovery per acre in new fields discovered is steadily becoming smaller. Average depth of wells drilled has increased steadily and substantially as a result of the inability of the industry to discover low-cost, shallow fields as in the past.

The direct development costs incurred as shown in table 15, represent the total cost of all oil wells completed without regard to salvage value of equipment that may be realized upon abandonment. On the other hand, these costs do not include cost of installations subsequent to year of well completion, such as engines or motors, pumping equipment, tubing, sucker rods, etc., except where installed almost immediately. It is the considered opinion of this committee based on its knowledge of the industry, that this inconsistency is of negligible importance but would be more likely to result in understating rather than overstating, development cost per barrel on a replacement basis.

TABLE 16.—*Unit development cost*

[Computed from table 15]

	Unit cost per barrel of estimated net oil reserves	Average cost per net productive oil well completed	Average cost per foot drilled
1936	$0.212	$31,069	$8.767
1937	.213	31,431	8.406
1938	.201	33,122	8.576
1939	.191	29,151	7.633
1941	.199	29,881	7.551
1942	.218	36,994	8.962
1943	.296	43,679	11.114
1944	.383	55,008	12.787

The increase in average cost per well was caused partly by the increase in wages and equipment costs and partly by the increasingly greater depth of producing horizons of fields under development. The added cost of deeper drilling is much greater than in proportion to increase in depth as shown by increase in average cost per foot. Increased depth is not offset by increased recovery per acre. The most prolific oil-bearing formations known to geologists are at depths now considered as relatively shallow. Many fields recently developed have such a small recovery per acre that their development would have been regarded as a marginal operation only a few years ago. Such fields have been and are being developed only because of the failure to discover more prolific areas.

The actual increase in development cost per barrel is obscured to some extent by the 40-acre spacing requirement, as previously mentioned.

Finding cost per barrel

TABLE 17.—*Approximate finding cost per barrel on replacement basis*

	Finding costs incurred by reporting producers from exhibit A (thousands of dollars)			Net volume of new reserves discovered of the producers included in study (thousands of barrels) (from table 9)	Approximate finding cost per barrell
	Direct cost (line D3a)	Overhead (line D3b)	Total (line D3c)		
1936	106, 137	6, 494	112, 631	624, 496	$0.180
1937	130, 542	7, 813	138, 355	950, 336	.145
1938	123, 893	8, 287	132, 180	813, 619	.163
1939	105, 767	7, 884	113, 651	315, 377	.360
Average	116, 585	7, 619	124, 204	676, 056	.184
1941	122, 021	8, 678	130, 699	499, 044	.262
1942	130, 569	10, 697	141, 266	340, 412	.415
1943	162, 758	12, 648	175, 406	404, 176	.434
1944	253, 750	14, 630	268, 380	296, 421	.907

Most of the finding costs incurred, as shown in table 17, consist of the cost of dry holes completed, unsuccessful geophysical surveys, and other definitely realized losses from which little or no future benefit could possibly result. Some future discoveries may result from a relatively small part of the amounts shown, which represent the cost of nonproductive properties purchased, cost of geophysical and geological work which led to the purchase of such properties, and rentals and other costs incident to ownership of nonproductive properties. In the past, there has been a normal "lag," averaging about 3 years, between expenditures relating to acquisition of nonproductive properties and discoveries that may result, but this "lag" has probably been materially reduced by the recent expansion in exploratory drilling. Some of the discoveries made in 1943 and 1944 resulted from exploratory expenditures made a few years earlier whereas some of the expenditures in those years may result in discoveries a few years later. Consequently, there is a normal overlap of discoveries from year to year. In table 17, it is assumed that this over-lap will "average out" and that the finding costs incurred each year will result in discoveries equal to the volume of oil actually discovered in the same years, as estimated by the Petroleum Administration for War. This assumption seems not only reasonable but also conservative when considered in relation to the definitely downward trend in volume of discoveries, and the increasing difficulty of finding oil as shown in tables 1 and 18, respectively.

In order to simplify compilation of replacement cost data, the cost of productive exploratory wells completed is included in development cost and not in finding costs incurred. This is a minor inconsistency which has the effect of understating total replacement cost per barrel inasmuch as in each recent year the total volume of reserves developed was substantially greater than the volume of discoveries.

Table 17 shows that the very sharp increase in finding cost per barrel results from the upward trend in exploratory expenditures combined with the downward trend in discoveries. The reasons for the increase in cost are made more clear by the data in the following table:

TABLE 18.—*Exploratory drilling in relation to discoveries*

Year	Exploratory wells drilled by all reporting producers (from exhibit A)[1]			Net volume of new reserves discovered by entire oil industry		
	Number of net wells (line A5a)	Average depth, feet (line A5b)	Number of exploratory wells drilled by entire industry [2]	Total (millions of barrels) (from table 9)	Average net reserves discovered per exploratory well drilled by entire industry	Number of exploratory wells drilled per million barrels of oil discovered
1936	705	3, 291	N A	1, 394	N A	N A
1937	997	3, 524	2, 224	2, 103	945, 594	1. 1
1938	923	3, 921	2, 638	1, 812	686, 884	1. 5
1939	836	3, 948	2, 589	701	270, 761	3. 7
1940			3, 038			
1941	1, 102	3, 970	3, 264	1, 087	333, 027	3. 0
1942	1, 057	4, 163	3, 219	720	223, 672	4. 5
1943	1, 012	4, 979	3, 843	802	208, 691	4. 8
1944	1, 420	5, 268	3, 881	565	145, 581	6. 9

[1] Some reporting producers failed to report exploratory wells.
[2] Dr. Frederick H. LaHee, Sun Oil Co. (1944—PAW).

APPENDIX E. REPLACEMENT COST VERSUS BOOKKEEPING COSTS

Operating cost

The current cost per barrel of operating productive wells is included in both replacement cost and bookkeeping cost.

Development cost

The replacement cost figures include for each year the development cost per barrel of reserves actually developed during the same year.

The bookkeeping cost figures include, generally, the amortization on a per barrel basis, of the capitalized cost of productive wells completed in previous years. It is known that the capitalized cost does not represent the complete cost of the productive wells, and amortization of cost under the customary "unit of production" method is somewhat questionable in principle. The greater part of the difference between replacement cost and bookkeeping cost as related to productive wells would still exist even if the latter represented the correct amortization of the correct historic cost, and this results from difference in principle—historic cost as against replacement cost. This fundamental difference can be explained best by a simple example as below:

Assume

Company production during year of 1,000,000 barrels from wells completed some years ago with correct historic development cost of 20 cents per barrel. During the year the company spent $500,000 for new productive wells with estimated reserves of 1,000,000 barrels. With all other pertinent factors assumed to be the same, the effect of the difference in principle between the two procedures would be as shown below:

	Historic cost basis for productive wells		Replacement cost basis for productive wells	
	Total	Per barrel	Total	Per barrel
Gross income	$1, 200, 000	$1. 20	$1, 200, 000	$1. 20
Deduct:				
Operating cost	300, 000	. 30	300, 000	. 30
Development cost:				
Historic	200, 000	. 20		
Replacement			500, 000	. 50
Finding cost	600, 000	. 60	600, 000	. 60
Total cost	1, 100, 000	1. 10	1, 400, 000	1. 40
Margin of profit	100, 000	. 10	[1] 200, 000	[1] . 20

[1] Loss.

Under the historic cost method of dealing with productive well cost, the company would show a bookkeeping profit of $100,000 but from the broader economic viewpoint, it actually sustained a loss of $200,000 as its position did not change except with respect to the substantial reduction in cash.

Finding cost

Replacement cost per barrel includes finding cost determined by dividing the total of all expeditures each year which pertain to finding oil, by the volume of oil found during the same year. The portion of bookkeeping cost per barrel which relates to finding oil represents nothing more than a conglomeration of book charges divided by the volume of net production—not by volume of oil found.

Finding costs incurred (or bookkeeping charges which pertain to finding oil) should be considered in relation to the volume of oil found. The fallacy of considering finding costs as related to oil produced is shown clearly in the following example.

Assume—solely for purposes of illustration

Actual finding costs (or bookkeeping charges pertaining to the search for oil) of $500,000,000 per year, and actual production and discoveries during each of the past 4 years as shown:

Year	Net production (millions of barrels)	Net discoveries (millions of barrels)	Finding cost per barrel	
			Total finding costs divided by volume of production	Total finding costs divided by volume of discoveries
1941	1,000	1,000	$0.500	$0.500
1942	1,250	750	.400	.667
1943	1,500	500	.333	1.000
1944	2,000	250	.250	2.000

With the figures as assumed for purpose of this illustration and with the normal overlap in discoveries from year to year as explained in appendix D hereof, it is obvious that actual finding cost per barrel would be as shown in the last column above, and that the figures in the next-to-last column are completely erroneous. Nevertheless, the total bookkeeping cost per barrel includes finding cost per barrel determined in the manner illustrated in the next-to-last column.

Summary of comparison of methods

The total of all bookkeeping costs divided by the volume of net production represents bookkeeping cost per barrel. Comparison of bookkeeping cost per barrel for each of the three activities of the industry, with the corresponding replacement cost figures, shows that the bookkeeping figures are utterly unrealistic when considered in relation to the actual changes in operating conditions.

The difference between total gross income shown on line C5 of exhibit A and the total of all bookkeeping costs shown on line E7 of the same exhibit indicates the bookkeeping profit derived from production of crude oil.

With bookkeeping costs being unrealistic, the bookkeeping profit must be at least equally unrealistic when considered in relation to the actual changes in the condition of the industry.

On the other hand the replacement cost figures were determined in a manner which was specifically intended to reflect the changes in conditions that have actually occurred and the figures are in close conformity with such changes. The replacement cost data merely eliminate the time lag in order to show currently the results of the industry's replacement operations.

Recognition of replacement cost data

This committee is convinced that the increasingly adverse fundamental position of the industry shown in table 1 and the inherent peculiarities and complexities of the industry as indicated previously herein not only justify, but actually require, that consideration be given to replacement cost data in any objective determination of whether crude oil prices are "generally fair and equitable."

This committee is also convinced that there are no valid reasons for the unwillingness of your Office to consider replacement cost data in connection with

crude oil prices. Therefore, there is submitted below an exposition of the reasons given by your Office for its unwillingness to consider crude oil replacement cost data.

Exposition of reasons given by the Office of Price Administration for refusing to consider replacement cost in connection with crude oil prices

Exhibit B gives excerpts with regard to greatly increased replacement cost and inadequacy of crude oil prices from statements made during the early part of 1945 by Standard Oil Co. of New Jersey, The Texas Co., Humble Oil & Refining Co., Standard Oil Co. of Indiana, and Union Oil Co. of California. These companies are among those which normally lead in changing posted prices for crude oil. They disagree with the Office of Price Administration allegation of abnormal profits derived by the oil-producing industry, as during the early part of 1945 they all favored higher crude oil prices. These companies as a group refine a volume of crude oil that is approximately 50 percent greater than their production. Termination of the war has already caused a substantial decrease in crude oil output and a further large reduction is in prospect. As a result of reduced output and other factors explained herein, crude oil costs are now substantially higher than during 1944 and the early part of 1945 and undoubtedly will go much higher. An increase in crude oil prices is now even more justified and necessary than when these statements were made and therefore it must be assumed that these companies still consider a crude oil price increase to be necessary.

The Office of Price Administration contends that giving consideration to replacement cost data is forbidden by the statute. This contention is based apparently upon an erroneous construction of the following excerpts from paragraph (a) of section 2 of the Emergency Price Control Act: *Provided*, That no regulation or order shall contain any provision requiring the determination of costs otherwise than in accordance with established accounting methods."

This provision forbids your Office to require determination of costs otherwise than in accordance with established accounting methods. It does not forbid your Office to recognize replacement cost or any other data relevant to the determination of ceiling prices that will be "generally fair and equitable." The statute gives very broad, discretionary powers to the Administrator, but it clearly discloses the intent of Congress that such powers will be used reasonably to the end that ceiling prices shall be in fact "generally fair and equitable." Consideration of replacement cost data is obviously relevant and essential to the determination of fair and equitable prices for crude oil. Public records disclose that the Office of Price Administration has given consideration to replacement cost data with respect to other industries and businesses. Its refusal to consider crude oil replacement cost data therefore is in conflict with the spirit and intent of the act.

The Office of Price Administration contends that giving consideration to crude oil replacement cost would establish an undesirable precedent that it would be bound to follow with respect to all other industries and businesses. There is nothing undesirable in considering replacement cost data in any case where it is relevant to the determination of fair and equitable ceiling prices. The oil-producing industry is peculiar in that (1) its major normal operations are replacement operations, (2) its actual economic gain or loss from all its operations (including replacement operations) cannot be determined periodically through the use of established accounting methods, and (3) there is an obviously immutable long-term trend toward higher crude oil costs which is in addition to the normal upward trend in costs affecting all industries. Therefore, recognizing current replacement cost in the determination of current crude oil prices would not be an unjustified deviation from the usual—but not invariable—practice of using bookkeeping fixtures exclusively as the basis for fixing price ceilings. Furthermore, a justified exception demonstrably necessary to cover a unique situation would not reasonably constitute a precedent that your office would be bound to follow indiscriminately with respect to other industries and businesses which are fundamentally different. This committee is confident that there are few, if any, other industries that can clearly show the same degree of inequity and hardship resulting from the use of bookkeeping figures as the basis for determining price ceilings.

Mr. Paul M. Green, Deputy Administrator for Accounting of the Office of Price Administration, suggested to a committee of Congress that the excess of current replacement cost over the current price of oil does not justify an increase in price but that the industry should secure the additional funds required for necessary replacement operations through borrowing and/or capital financing. It

is unsound to propose that an important basic industry should be forced to resort to borrowing or new financing to continue necessary, normal operations which are unprofitable with present inadequate crude oil prices.

The Office of Price Administration claims that replacement cost data cannot be given consideration because replacement cost accounting is not the established method followed generally throughout the industry. The industry uses the generally well-established accounting methods that are used by all other industries or businesses. Unfortunately, these accounting methods fail to reflect currently the results of current replacement operations. There is no system of accounting or other method for use by individual producers throughout the industry that could reflect currently the results of their replacement operations. This is not the fault of the industry but proves that it is inherently peculiar and unusual. The statistical procedure of this committee for approximating current replacement cost and indicating current results of replacement operations can be applied properly to the industry as a whole but cannot be used by individual producers for the purpose of preparing financial reports for publication. The necessity for compiling replacement cost data results from the failure of established accounting methods as used in the industry to reflect data which are obviously relevant and essential to the determination of fair and equitable ceiling prices.

Appendix F. History of Cost Survey

The act creating the Office of Price Administration and authorizing it to fix price ceilings, provides in part as follows:

"Before issuing any regulation or order under the foregoing provisions of this subsection, the Administrator shall, so far as practicable, advise and consult with representative members of the industry which will be affected by such regulation or order, *and shall give consideration to their recommendations.*"

The italicized portion was added by the act of 1944.

The act further provides:

"In case of commodity for which a maximum price has been established, the administrator shall, at the request of any substantial portion of the industry subject to such maximum price, regulation or order of the administrator, appoint an industry advisory committeee, or committees, either national or regional or both, consisting of such number of representatives of the industry as may be necessary in order to constitute a committee truly representative of the industry or of industry in such region, as the case may be * * * ."

The Committee on Small Business of the House of Representatives on December 4, 1944, in its sixth interim report recommended to the Committe of the Whole House that the Office of Price Administration appoint an industry advisory committee to represent the crude petroleum producers.

On January 3, 1945, 2 years and 11 months after the law was passed, the Office of Price Administration created the National Crude Oil Industry Advisory Committee.

The law relating to the operation of such committees is quite clear and provides in part as follows:

"The administrator shall from time to time, at the request of the committee, advise and consult with the committee with respect to the regulation or order (on price), and with respect to the form thereof, and classifications, differentiations, and adjustments therein. The committee may make such recommendations to the administrator as it seems advisable *and such recommendations shall be considered by the administrator.*"

Again, the italicized portion was added by Congress in 1944, emphasizing the importance Congress felt was attached to the views of the industry with respect to its prices and costs.

The Committee on Small Business pointed out in its sixth interim report (December 4, 1944), that at the request of the Speaker of the House of Representatives, the Honorable Sam Rayburn, and of many independent producers of oil and the Independent Petroleum Association of America, hearings were held in the spring of 1943 to determine whether there was sufficient production of crude petroleum in the United States.

As a result of those hearings the committee issued its second interim report (May 10, 1943), wherein was expressed alarm at the declining rate of discovery of petroleum and endorsed a recommendation made by the Petroleum Administrator for War calling for an average over-all increase in the price of crude petroleum in the amount of 35 cents per barrel.

The facts and assumptions which that committee recited in its second and sixth interim reports and the various other reports of that committee and other congressional committees relating to the seriousness of the crude petroleum supply and price situation have not been refuted by the Office of Price Administration.

On January 3, 1945, Mr. James F. Brownlee, acting administrator of the Office of Price Administration, appointed 23 representatives of the oil industry to membership in the National Crude Oil Industry Advisory Committee in accordance with section 2 (a) of the Emergency Price Control Act of 1942, as amended, and in accordance with the rules prescribed in procedural regulation No. 13. On the same date, the then price executive, Petroleum Branch, W. Page Keeton, notified the appointees of a meeting to be held in Washington, January 15, 1945.

The purpose of the committee, as stated by Mr. Brownlee in his letter of appointment was:

"* * * to aid the Office of Price Administration in determining whether the prices of crude petroleum are generally fair and equitable."

The committee was later advised by the Office of Price Administration that:

"Specifically, it was to consult and advise this office in resolving the various questions arising from the recommendation of the House Committee on Small Business; namely that a study of the finding, developing and operating costs of the crude oil producing industry be initiated."

In announcing the appointment of the National Crude Oil Industry Advisory Committee on January 3, 1945, Mr. Chester Bowles, Price Administrator, said in the press statement issued for release that day:

"This does not represent any change in Office of Price Administration's position, stated many times, that, in its opinion, there should be no general price increase for the crude oil industry as a whole—we are glad to make the survey in response to congressional committee and industry request for a cost study. This will give us additional data for determining whether Office of Price Administraton's stand against a price increase is justified."

At a meeting held on January 15, all the 23 appointees met with the officials of the Office of Price Administration in Washington and carried out the necessary organization procedure in setting up this committee. Mr. Sumner T. Pike, Director of Fuel Division; Mr. O. D. Judd, Associate Director, Fuel Division; and Mr. W. Page Keeton, Price Executive, Petroleum Branch, all of the Office of Price Administration, outlined and discussed the standards of the Office of Price Administration relative to the adjustment of maximum prices on crude oil, pointing out that it is the policy of that office in establishing price ceilings, to take into consideration earnings of the industry in a base period, 1936 to 1939 and compare current earnings of the industry with such base period and to maintain prices which are generally fair and equitable. They further stated that in order that such a determination be made, and to comply with the recommendations of the Committee on Small Business of the House of Representatives and a number of crude oil producers, a survey of the cost of producing crude petroleum of a representative list of oil producers in the United States would be made, and presented a form of questionnaire for the committee to examine and approve.

The questionnaire submitted, followed in general the questionable method used by the United States Tariff Commission in its cost survey made under the direction of the Office of Price Administration in 1941 and 1942. The proposed questionnaire did not provide for ascertaining the current cost of finding, developing and producing crude oil.

A subcommittee was formed to study the proposed form which the Office of Price Administration submitted.

The Office of Price Administration refused to accept any of the simplified procedures proposed by the advisory committee to expedite completion of the cost survey.

The subcommittee, after reviewing the Office of Price Administration questionnaire, reached the conclusion that the form as proposed was not suitable for assembling data that could be properly used in approximating the current actual cost of finding, developing, and producing crude petroleum. The committee was definitely of the opinion that any findings based on the method which the Office of Price Administration proposed, in arriving at crude oil costs would be both incorrect and misleading.

The committee found it necessary to compromise on a questionnaire which the representatives of the Office of Price Administration and the industry committee developed so as to furnish the information desired by both. This questionnaire form was mailed by the Office of Price Administration on April 11, 1945.

The determination of the number of oil producers to be surveyed and details with regard to tabulation, etc., were not discussed by the Office of Price Administration and the National Crude Oil Industry Advisory Committee at the meeting in January. These matters were referred to the subcommittee to be worked out in detail with Mr. W. Page Keeton, then Petroleum Price Executive of the Office of Price Administration. The original plan as discussed with Mr. Keeton, contemplated sending out 300 questionnaires. However, after considering the possible returns, it was decided to send out 500. It was understood that it would not be possible to obtain a large percentage of returns from the proposed 500 sample. No definite percentage of returns was made a fixed requirement.

The committee supplied the Office of Price Administration with over 4,000 names and addresses of currently operating oil producers, indexed by States and producing areas.

The Office of Price Administration selected relatively few names from the committee list. The balance of its original January 25, 1945, list of 535 names was selected by the Office of Price Administration from "Moody's, the Petroleum Register, and the list used by the Tariff Commission" (from the Office of Price Administration report to the committee).

The committee, on checking the list, found and notified the Office of Price Administration of many names that were unknown or out of business. After the Office of Price Administration made substitutions and revisions, its final list contained over 700 names, including many reported by the committee as unknown.

Originally, these questionnaires were to be filed on or before May 1, 1945. The time was later extended to June 1, and finally extended to June 30. On that date 281 returns had been received by the Office of Price Administration. The general difficulty experienced by the nonreporting producers was the lack of personnel and adequate records.

On May 25, Mr. Judd wrote to the committee as follows: "It appears advisable to establish the minimum return which this agency considers necessary for factual finding. In view of the fact that the sample has been carefully selected and is numerically small, the percentage of returns on which a finding can be made must of necessity be very high. If a higher percentage of returns from such sample is not received, then any finding made will in all probability not disclose a true condition. Because of these facts, we feel that a percentage return of less than 85 percent of the selected sample would require careful determination as to whether any finding made could be considered conclusive. In any event, a materially smaller percentage return should be regarded as inadequate."

The committee disagreed with Mr. Judd, pointing out that the original plan of the survey did not contemplate any such high percentage of return and that relevant factors, other than numbers, are equally important in determining the adequacy of a sample.

Mr. Judd then informed the secretary that his mind was not closed on the matter of percentage requirement.

On July 7, 1945 the chairman of the subcommittee recommended that the Office of Price Administration expedite tabulations of the crude petroleum cost data.

On July 20, 1945, Mr. O. D. Judd of the Office of Price Administration advised the secretary of the committee that tabulations of cost data on production cost questionnaires, on file in his office, would be commenced at once.

August 13, 1945, Mr. O. D. Judd submitted a report to the National Crude Oil Industry Advisory Committee on the survey of crude-oil production costs, concluding that: "the survey has fallen far short of its original goal of a high percentange return which was agreed to be a requisite if the sample was restricted to the small number decided upon."

The Office of Price Administration further contended that: "* * * the returns are too small to warrant analysis for the purposes contemplated by the study * * *."

On August 15, 1945, the secretary of the committee appealed to Mr. Chester Bowles to overrule the decision of Mr. Judd.

August 31, 1945, Mr. Bowles informed the secretary that he was in full agreement with Mr. Judd and denied any relief.

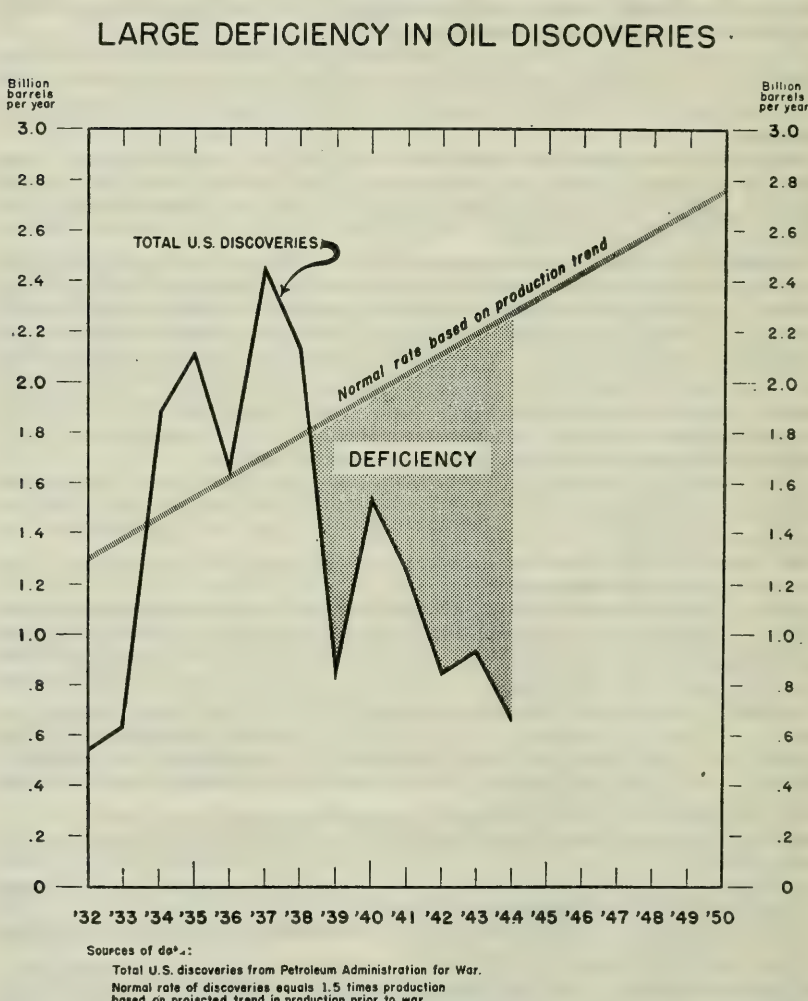
On September 19, 1945, in response to a request of the Honorable Wright Patman, chairman, Select Committee on Small Business; Mr. Russell B. Brown, counsel for the National Crude Oil Industry Advisory Committee stated:

"The industry committee urges that the tabulation of data reported on the returns now on file with the Office of Price Administration be completed at the

earliest possible date and that over-all totals by segments of the industry, together with such relevant facts as are proper, should be supplied to the subcommittee as soon as tabulations are completed, and that the survey proceed without further delay in accordance with the plan of survey as originally contemplated. The industry advisory committee, provided for by law and appointed upon the recommendation of your committee, should be afforded the opportunity to determine from the facts supplied on these returns whether or not the sample is adequate. The advisory committee should make recommendations to the Office of Price Administration with relation to this survey, and such recommendations should be carefully considered by the Office of Price Administration before their conclusion is formed or announced."

On September 20, 1945, Mr. Patman for his committee wrote Mr. Bowles in part: "If the Office of Price Administration is to be truly consistent in its dealings with industry advisory committees, I feel that you have no recourse other than to comply with the suggestions made by Mr. Brown in the attached letter."

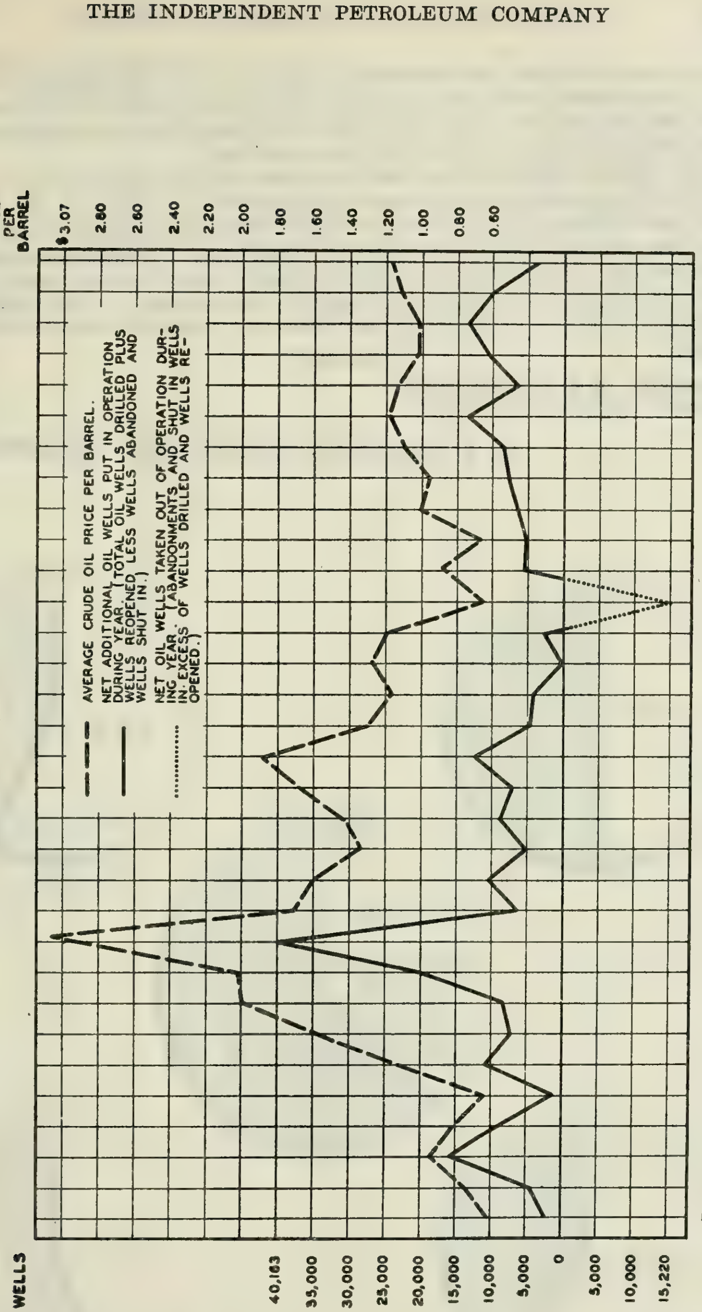
CHART I



(This chart shows the unsound condition now existing in the crude-oil industry as a result of the failure to discover sufficiently large quantities of new reserves.)

CHART II

PRICE NORMALLY STIMULATES NEW OIL SUPPLY
AS SHOWN BY NET ADDITIONAL WELLS BEFORE PRICE CONTROL



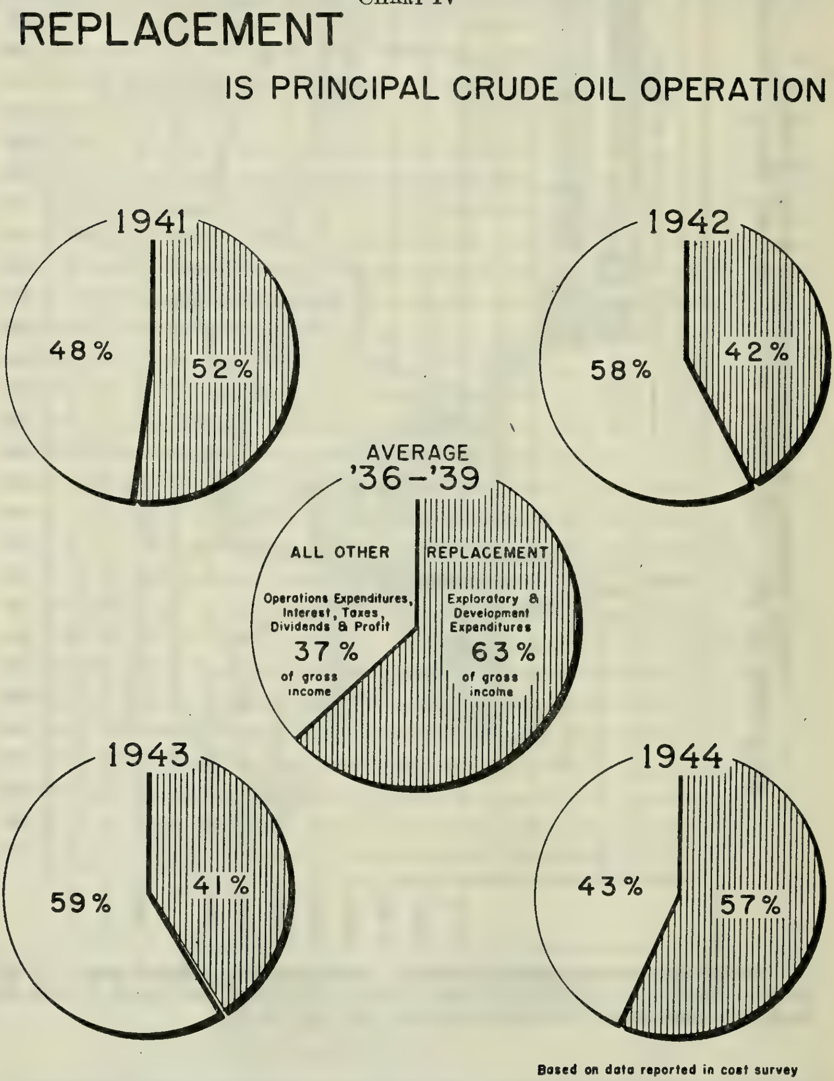
(There is one proven, practical way of correcting the unsound condition pictured in chart I. A proper price has always stimulated the search for oil and resulted in new productive wells being put into operation.)

On October 5–6, 1945, the subcommittee with other members who could attend, met in Washington with officials of the Office of Price Administration. After reviewing the position of the industry, and the Office of Price Administration regarding the adequacy of the survey, Mr. Pike agreed that the compilations from the cost data be made available to the subcommittee.

Under date of November 28, 1945, the Office of Price Administration transmitted to the secretary of the committee a punch-card listing of the summary cards from the basic listing of the crude-petroleum production survey.

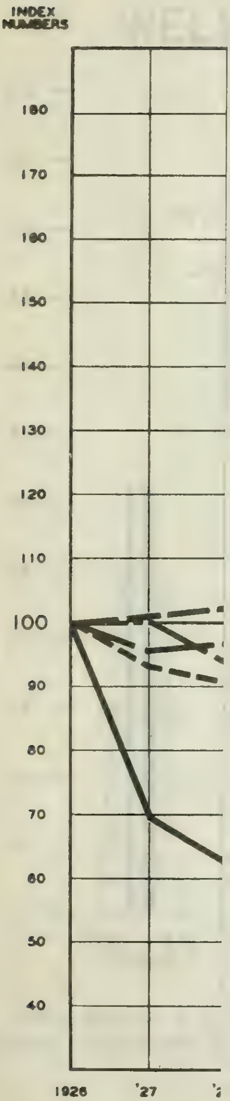
On December 4–11, 1945, the subcommittee met in Washington, D. C., to consider cost data. On December 7 and again on December 11, the subcommittee conferred with Mr. J. H. Reppert, associate director, Fuel Division, Office of Price Administration and members of his staff for the purpose of determining what groupings would be recognized by that Office in a committee presentation of its analysis.

CHART IV



(In no other major industry is the replacement of fixed assets so important a factor affecting price. The crude oil industry normally spends over 60 percent of its gross income in the search for, and development of, new reserves to replace oil consumed. Not enough was spent during the war—largely due to a lack of incentive resulting from depressed prices.)

C


INDEX NUMBERS
180
170
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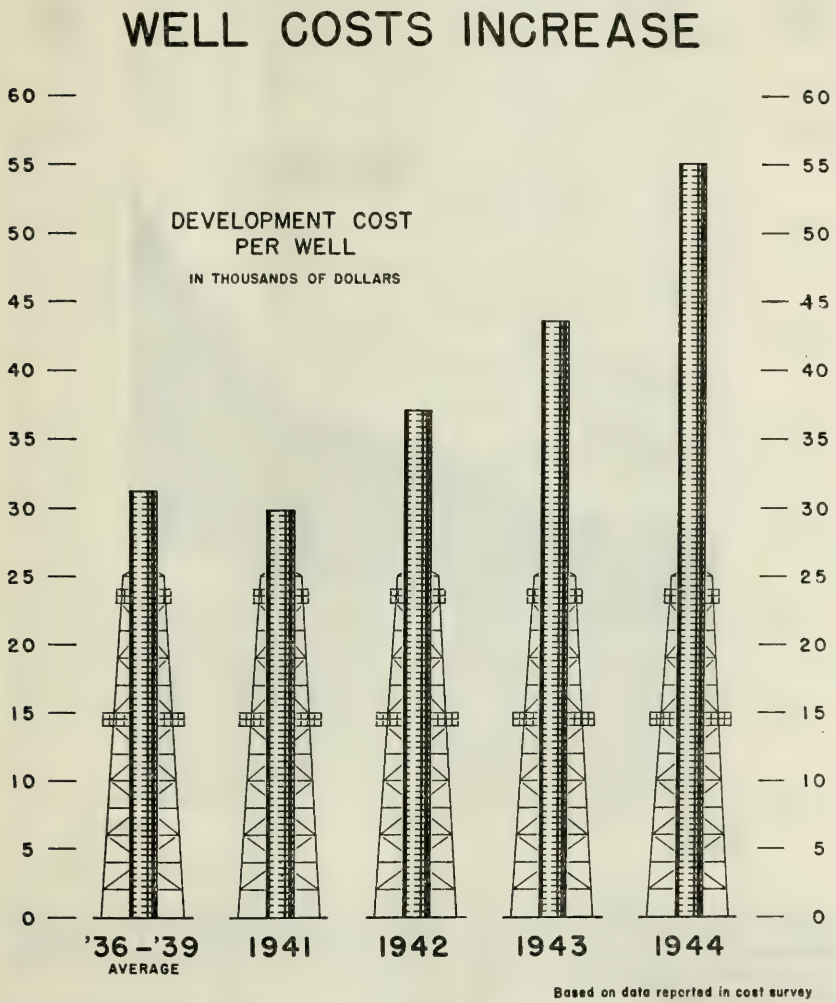
'27

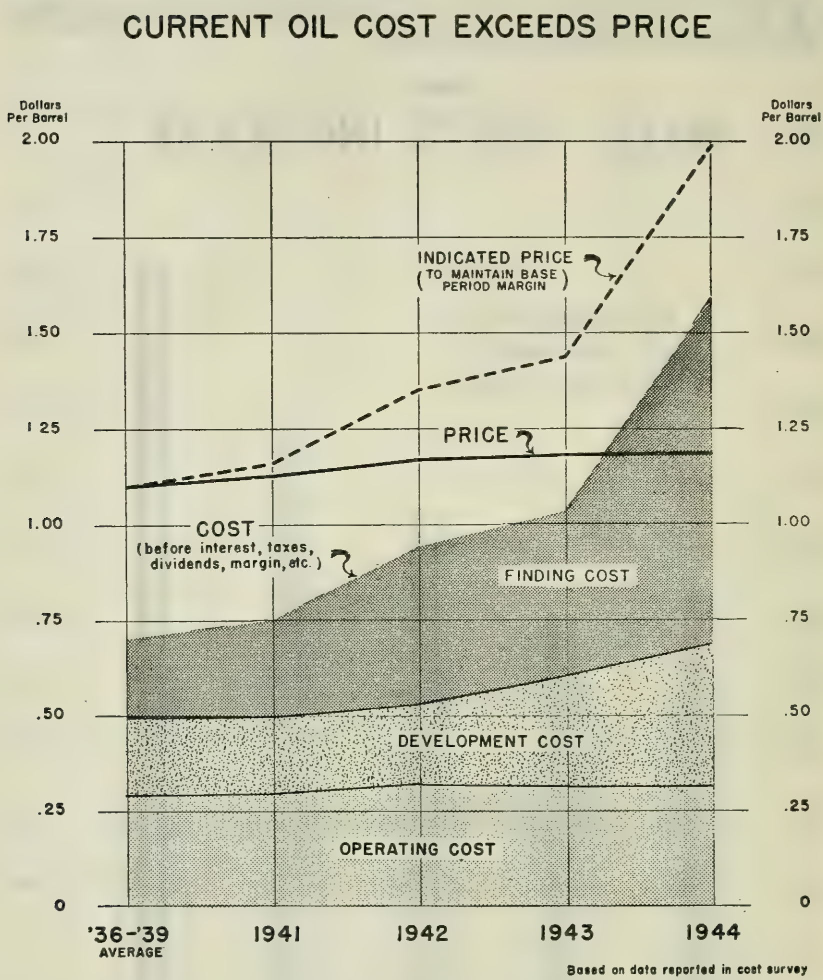
By letter of December 12, 1945, Mr. H. J. Reppert informed the committee that in his opinion the committee "should select whichever class groups of company you prefer." He further stated, "any report received from your committee will be given careful consideration by this office."

CHART V



From chart V it is clear that one of the principal factors of increased costs during the war was the steep rise in the cost of developing a productive oil well.

CHART VI



In this chart, current oil costs are summarized on a per barrel basis. These costs are seen to increase sharply as contrasted with no significant change in the depressed price level. A price adjustment of 80 cents per barrel is indicated as necessary to maintain the margin over replacement cost realized during the 1936–39 base period.

EXHIBIT A

Exhibit A hereinafter contains the combined over-all statistical and financial data reported by classes 1 and 2 in the crude petroleum production survey and are compiled from basic data supplied to the subcommittee by the Office of Price Administration.

These data for classes 1 and 2 were used by the subcommittee as the basis for its determination of finding, developing, and producing crude petroleum as presented hereinbefore.

Additional schedules showing all basic data considered by the subcommittee in its analysis of the over-all totals supplied to the committee by the Office of Price Administration are submitted separately as a supplement to and part of this report.

EXHIBIT A.—*Crude petroleum, costs survey, reported totals of classes 1 and 2 combined*

SECTIONS A–C, INCLUSIVE

Item	Year ended Dec. 31—							
	1936	1937	1938	1939	1941	1942	1943	1944
A. Well and engineering data:								
1. Average number of wells producing during each period	87, 738	92, 862	100, 556	103, 793	105, 646	109, 935	111, 638	114, 461
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)	6, 332	8, 454	6, 643	6, 150	6, 962	3, 884	3, 511	4, 795
(*b*) Average depth (in feet)	3, 544	3, 739	3, 862	3, 819	3, 957	4, 128	3, 930	4, 302
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels—thousands)	928, 537	1, 250, 389	1, 095, 911	940, 695	1, 045, 072	659, 367	517, 625	687, 976
3. Dry holes:								
(*a*) Number completed each period	701	925	852	783	1, 066	1, 115	1, 316	1, 771
(*b*) Average depth (in feet)	3, 852	4, 075	4, 460	4, 604	4, 518	4, 524	4, 623	4, 783
4. Input and service wells drilled for that purpose during each period	593	950	444	426	704	763	748	777
5. Exploratory wells (included in A–2 (*a*) and A–3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period	705	997	923	836	1, 102	1, 057	1, 012	1, 420
(*b*) Average depth (in feet)	3, 291	3, 524	3, 921	3, 948	3, 970	4, 163	4, 979	5, 268
B. Production in barrels (in thousands):								
1. Net company working interest domestic crude oil produced	422, 556	495, 571	467, 063	488, 180	551, 500	562, 243	650, 385	754, 289
2. Add, royalty oil including overriding royalties applicable (line B–1)	71, 662	86, 037	82, 685	82, 477	91, 044	92, 584	107, 089	120, 613
3. Total (lines B–1 and B–2)	494, 218	581, 608	549, 748	570, 657	642, 544	654, 827	757, 474	874, 902
C. Value of oil and other production income (in thousands):								
1. Sales value of oil shown on line B–1	$453, 443	$576, 875	$527, 240	$498, 681	$620, 390	$656, 732	$767, 748	$893, 350
2. Subsidy value accrued on oil shown on line B–1	- - -	- - -	- - -	- - -	- - -	- - -	- - -	6, 261
3. Gas sales from oil properties (net company working interest)	20, 047	23, 078	22, 083	21, 172	21, 965	22, 428	27, 545	32, 858
4. Other production income	3, 437	4, 360	3, 675	3, 243	3, 547	3, 492	3, 783	5, 669
5. Total (lines C–1 through C–4)	476, 927	604, 313	552, 998	523, 096	645, 902	682, 652	799, 076	938, 138

EXHIBIT A.—*Crude petroleum, costs survey, reported totals of classes 1 and 2 combined*—Continued

SECTIONS D-G, INCLUSIVE

[In thousands of dollars]

Item	Year ended Dec. 31— 1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production costs	103,084	126,290	134,472	132,576	149,228	161,350	183,380	218,024
Overhead applicable to production—from line D-5 (*a*)	7,675	8,853	10,729	11,281	11,961	15,463	16,057	14,627
(*c*) Total (lines D-1 (*a*) and D-1 (*b*)	110,759	135,843	145,201	143,857	161,189	176,813	199,437	232,651
2. (*a*) Development cost of productive oil wells completed during each period	184,862	250,752	206,250	167,743	194,828	132,668	142,186	248,372
(*b*) Overhead applicable to development—from line D-5 (*b*)	11,868	14,968	13,782	11,538	13,202	11,017	11,172	15,393
(*c*) Total (lines D-2 (*a*) and D-2 (*b*)	196,730	265,270	220,032	179,281	208,030	143,685	153,358	263,765
3. (*a*) Expenditures during each period which relate to finding oil	106,137	130,542	123,893	105,767	122,021	130,569	162,758	253,750
(*b*) Overhead applicable to exploration—from line D-5 (*c*)	6,494	7,813	8,287	7,884	8,678	10,697	12,648	14,630
(*c*) Total (lines D-3 (*a*) and D-3 (*b*))	112,631	138,355	132,180	113,651	130,699	141,266	175,406	268,380
4. General and administrative expense and other overhead not included in lines D-1 (*a*), D-2 (*a*), and D-3 (*a*)	26,037	31,634	32,798	30,703	33,841	37,177	39,877	44,650
5. Distribution of overhead:								
(*a*) Prorated to production costs (insert on line D-1 (*b*))	7,675	8,853	10,729	11,281	11,961	15,463	16,057	14,627
(*b*) Prorated to development costs (insert on line D-2 (*b*))	11,868	14,968	13,782	11,538	13,202	11,017	11,172	15,393
(*c*) Prorated to finding costs (insert on line D-3 (*b*))	6,494	7,813	8,287	7,884	8,678	10,697	12,648	14,630
E. Production expenses:								
1. Operating expense	97,818	120,257	126,699	124,293	139,502	151,625	172,665	205,834
2. Exploratory and dry-hole costs written off	80,354	100,429	108,904	103,555	106,591	118,652	126,663	187,481
3. General and administrative expenses	30,721	37,696	39,840	38,092	42,958	46,825	51,248	58,752
4. Depletion of leasehold and land costs	27,211	30,364	27,736	26,441	24,443	25,248	26,784	32,358
5. Depreciation of tangible assets	49,541	63,419	62,062	64,752	70,035	73,072	76,098	83,248
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized	15,401	22,956	25,163	29,428	36,116	34,793	40,372	48,469
(*b*) Expenditure, if written off currently	28,975	38,035	35,966	33,621	45,159	34,441	36,711	62,724
7. Total (lines E-1 through 6 (*b*))	330,021	413,156	426,370	420,182	464,804	484,656	530,541	678,866

F. (Do not make any entries on this line.)								
G. Officers' or owners' compensation:								
1. Included in line E-7								
2. Charges to fixed assets used in production								
3. Total (lines G-1 and 2)								

SECTION H

H. Crude oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land	931, 138	955, 437	976, 915	959, 225	985, 512	1, 020, 576	1, 098, 258	1, 162, 476
(b) Equipment, buildings, etc	959, 996	1, 065, 325	1, 139, 557	1, 121, 263	1, 227, 151	1, 255, 693	1, 301, 246	1, 390, 831
(c) Intangible drilling and development	556, 783	664, 591	857, 192	913, 919	1, 078, 646	1, 135, 110	1, 191, 481	1, 310, 776
(d) Other (specify)	62, 327	72, 637	58, 641	60, 833	68, 297	61, 386	67, 215	85, 094
(e) Total (lines H-1 (a) through (d))	2, 510, 244	2, 757, 990	3, 032, 305	3, 055, 240	3, 359, 606	3, 472, 765	3, 658, 200	3, 949, 177
2. Inventories of crude oil, materials and supplies	70, 886	84, 939	65, 196	57, 324	77, 011	63, 370	71, 495	85, 835
3. Total (lines H-1 (e) and H-2)	2, 581, 130	2, 842, 929	3, 097, 501	3, 112, 564	3, 436, 617	3, 536, 135	3, 729, 695	4, 035, 012
4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land	481, 426	501, 859	526, 142	500, 903	531, 541	548, 373	561, 098	582, 111
(b) Depreciation of tangible assets	673, 801	716, 194	768, 959	763, 901	842, 152	893, 804	970, 162	1, 029, 572
(c) Amortization of intangible drilling and development costs	246, 299	287, 619	326, 297	360, 522	457, 238	495, 004	542, 866	609, 995
(d) Other (specify)	17, 653	17, 833	16, 021	17, 845	19, 894	22, 295	21, 441	22, 605
(e) Total (lines H-4 (a) through (d))	1, 419, 179	1, 523, 505	1, 637, 419	1, 643, 171	1, 850, 825	1, 959, 476	2, 095, 567	2, 244, 283
5. Line H-3 minus H-4 (e)	1, 161, 951	1, 319, 424	1, 460, 082	1, 469, 393	1, 585, 792	1, 576, 659	1, 634, 128	1, 790, 729

EXHIBIT B. EXCERPTS FROM REPORTS TO STOCKHOLDERS AND PUBLISHED STATEMENTS OF EXECUTIVE OFFICERS OF LARGE OIL COMPANIES WITH RESPECT TO INADEQUATE CRUDE OIL PRICES AND INCREASE IN REPLACEMENT COST

Standard Oil Co. (New Jersey)—1944 annual report

Present production, though, is from reserves developed in the past, and it is being sold at government-fixed prices that reflect discovery costs of a number of years ago. Current costs of discovery are substantially higher. Replacement of crude oil now being drawn from the ground is, of course, essential. Continuation of high finding costs, therefore, will make desirable and upward revision of the price of crude to support the exploration required for extensive new discoveries.

Statement by Mr. R. W. Gallagher, chairman of the board of Standard Oil Co. (New Jersey) at annual meeting of stockholders, June 5, 1945

I should emphasize that in our current high production for war we are drawing heavily upon crude oil reserves accumulated in prewar years. Our costs of finding oil then were much lower, it now appears, than they will be in the future. The earnings we are showing, therefore, might be deceptive, since they cannot reflect the probably higher future costs of replacing our crude reserves.

The Texas Co.—1944 annual report

It should be recognized that the industry still continues to draw on the backlog of oil reserves discovered and developed at low cost during the 1930's, and that the reserves so produced are being only partially replaced with new crude oil reserves discovered and produced at much higher cost. The industry is disposing of its inventory in the ground (crude oil reserves) at prices which do not stimulate exploratory drilling on the part of the small independent producer, and are not in keeping with the increased cost of new discoveries.

In view of these conditions, the management repeats its statement made in the 1943 annual report, and reaffirms the following conclusions:

(1) Unless there is developed an entirely new or improved technique for locating deposits of oil, new discoveries will be less frequent and new production will be more costly than in the past.

(2) It is believed that a more equitable price is necessary to stimulate exploratory drilling particularly on the part of the small producer. The number and depth of these exploratory wells must, in our opinion, be increased far beyond that considered normal in the past.

(3) Unless new important reserves are discovered in the United States, this country must become a substantially larger importer of petroleum in order to provide for its military, industrial and civilian requirements.

Humble Oil & Refining Co.—1944 annual report

The intensive exploratory and development program in 1944 probably provided no more oil than required to offset production. This experience, like that of the industry, was in sharp contrast to the trend in 1930–40 when large additions to reserves were being made annually. Humble is drawing heavily on its reserves discovered in the preceding decade, in order to provide oil for military purposes. To the extent that this oil is being replaced, it is at higher cost. This should be taken into acount when considering the financial results for the year.

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The cost of drilling operations has increased greatly in recent years because of the larger proportion of wildcat wells, the greater average depth, and generally higher costs incident to the war. The average time required for drilling Humble's wells was 59 days in 1944, compared with 44 in 1943 and 26 in 1942. Humble's expenditures on drilling and equipping wells and leases were $34,000,000 last year, compared with $18,700,000 in 1943. The dry holes drilled in 1944 cost $11,700,000, or about $105,000 each, wheeras the dry holes in 1943 cost $5,300,000, an average of $62,000. The cost of producing wells completed increased from an average of $30,000 in 1942 to $47,000 in 1943 and $66,500 in 1944.

The higher cost of discovering and developing reserves experienced by Humble in 1944 is part of the general trend for the entire industry. The fact that discoveries of new oil are running substantially less than they did during the previous decade, while expenditures for exploration and development are now far above that level, demonstrates clearly that the industry's replacement cost is greater than the cost of the oil now being produced. The current favorable operating results in the industry are due to high rates of production and the

successful finding experience of the 1930's. The petroleum industry will experience substantially higher unit costs of production when output declines from the present abnormal levels and a larger proportion of the total is the high-cost oil found now and in the future.

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The future supply of oil for civilian needs and national security is endangered by two factors: (1) The higher taxes that the industry will have to pay if, in accordance with a recent court decision, long-established Government regulations are changed to require charging intangible drilling costs to capital rather than to expense; (2) the continued restriction of prices to prewar levels. Prices currently are at the levels that prevailed in 1937, even though the cost of replacing oil is now much greater. Present prices do not provide sufficient incentive for experienced operators to search for and develop new reserves. Exploration work will have to be expanded even above current levels before new discoveries equal production. This is not likely to occur unless oil prices are raised. The increase required to maintain adequate reserves will be greater if added tax burdens reduce the return to producers. The time to increase prices is now, for the relation of supply and demand in the postwar transition period will make it difficult, if not impossible, to secure higher prices. An increase in the price of crude oil, with corresponding changes in product prices, should be authorized promptly to assist in maintaining adequate petroleum supplies.

Standard Oil Co. (Indiana)—1944 annual report:

While this large amount of crude production was a major factor in the increased net earnings of our companies it must be kept in mind that to a substantial extent this represented the liquidation of crude reserves acquired at relatively low cost during the past years, which, judging from recent experience, can only be replaced at much higher costs because the cost of finding oil in this country has steadily increased for the past several years.

Statement by Dr. Robert E. Wilson, chairman of the board of Standard Oil Co. (Indiana) as quoted by the Associated Press:

Insofar as these profits (Standard of Indiana, first quarter of 1945) come from crude production, they are to some extent fictitious because we are in effect selling off our shelves goods which cannot be replaced at anything like the previous cost.

The OPA justifies ceiling prices on crude oil on the basis that most producing companies are showing good earnings, but this overlooks the fact that the cost of finding new domestic crude reserves has increased three or four fold during the past decade.

Union Oil Co. of California—First quarter 1945 report:

The difficulty of increasing reserves through new discoveries alone is stressed by the record of the industry in California last year. During that period, 214 wildcat wells were drilled, but only 15 found any oil. These 15 were credited with discovering a reserve of 11 million barrels—less than 4 percent of the oil withdrawn from the State during the year.

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Discouragement develops not from the inability to find new oil, but from the cost of finding it compared with present day sales prices. Today, the average barrel of oil sells for $1.02. But by comparison, it has been estimated that to find new reserves of 11 million barrels of oil last year, the California industry spent around 14 million dollars, or at a rate of slightly over $1.25 per barrel. Before the oil is finally recovered, this cost will be still higher, for a great number of development wells must be drilled. And drilling and other production costs are so much greater today than they were before the war. Advanced wages, accentuated by overtime, as well as increased costs for tools and materials, account for this rise.

While in 1890 it only cost $2,500 to drill an average well in the California fields—today, because we go much deeper, and use such expensive equipment, it costs almost 26 times as much.

If oil prices were not largely historical in their origin—and in no way realistic under today's operating conditions—adjustments balancing increased costs would have been made long ago. Unfortunately, Government pricing authorities cannot grasp the true situation—or do not wish to recognize present inequities—in spite of the fact that oil is internationally considered one of war's foremost munitions.

In view of the high costs of discovering and producing oil, Union has acquired proved reserves by direct purchase wherever practical. During 1944 such transactions increased our underground supplies by around 24 million barrels.

However, we can't rely on such purchases to meet all our requirements. Therefore, we have expanded exploration and development activities wherever we have felt there is any possibility of finding oil.

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But with fair adjustment of prices, Union Oil and the rest of the industry could afford to go farther afield in its search for oil. We could also expand development and research activities to stretch the over-all supply.

SUPPLEMENT

This supplement contains the over-all totals from the Crude Petroleum Production Survey as transcribed by this committee from the punch-card listings transmitted to it by the Office of Price Administration per letter dated November 28, 1945.

The punch-card listings cover all the data appearing on the cards with totals for each line under each class for each period by classes 1 to 8, inclusive, and for each of the segments 1, 2, and 4 with combined totals of the three segments in each separate class.

The committee's transcription as presented in the supplement covers classes 1 to 6, inclusive, including the segments in each class and the totals of the segments in each class.

OPA crude petroleum production costs survey data

CLASS 1, COMBINED TOTALS OF SEGMENTS 1, 2, AND 4

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
A. Well and engineering data:								
1. Average number of wells producing during each period	87,738	92,362	98,960	102,120	103,468	107,332	108,991	111,808
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)	6,332	8,300	6,445	5,990	6,724	3,816	3,389	4,675
(b) Average depth (in feet) per well	3,544	3,741	3,855	3,812	3,953	4,138	3,955	4,303
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	928,537	1,242,547	1,073,968	923,639	1,020,544	654,279	507,620	677,322
3. Dry holes:								
(a) Number completed each period	701	882	815	719	985	1,050	1,229	1,671
(b) Average depth (in feet) per well	3,852	4,139	4,502	4,712	4,591	4,580	4,687	4,839
4. Input and service wells drilled for that purpose during each period	593	949	443	423	703	759	743	771
5. Exploratory wells (included in A-2 (a) and A-3 (a) above:								
(a) Number of exploratory wells drilled each period	705	929	878	769	992	992	933	1,310
(b) Average depth (in feet) per well	3,291	3,496	3,912	3,971	3,959	4,190	5,033	5,353
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	422,556	490,649	452,608	473,551	533,704	540,737	632,051	736,700
2. Add royalty oil including overriding royalties applicable (line B-1)	71,662	85,304	79,713	79,942	87,548	88,479	103,612	117,332
3. Total (lines B-1 and B-2)	494,218	575,953	532,411	553,493	621,251	629,216	735,663	854,032
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ... thousands of dollars	453,443	571,137	510,199	483,589	601,184	633,068	746,358	872,197
2. Subsidy value accrued on oil shown on line B-1 ... do								6,130
3. Gas sales from oil properties (net company working interest) ... do	20,047	22,794	21,400	20,604	21,535	21,935	26,883	32,132
4. Other production income ... do	3,437	4,349	3,560	3,139	3,419	3,274	3,234	4,439
5. Total (lines C-1 through C-4) ... do	476,927	598,280	535,159	507,331	626,138	658,277	776,474	914,898
D. Production, development, and finding costs:								
1. (a) Production costs ... do	103,084	125,842	129,846	127,731	144,047	155,962	177,867	212,343
(b) Overhead applicable to production—from line D-5 (a) ... do	7,675	8,706	10,358	10,772	11,392	14,546	15,187	13,886
(c) Total lines (D-1 (a) and D-1 (b)) ... do	110,759	134,548	140,204	138,503	155,439	170,508	193,054	226,229

OPA crude petroleum production costs survey data—Continued

CLASS 1, COMBINED TOTALS OF SEGMENTS 1, 2, AND 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs—Continued								
2. (*a*) Development cost of productive oil wells completed during each period____thousands of dollars__	184, 862	247, 031	196, 653	160, 633	187 324	130, 287	138, 672	243, 482
(*b*) Overhead applicable to development—from line D-5 (*b*)___do____	11, 868	14, 668	13, 191	11, 076	12, 581	10, 786	10, 891	14, 975
(*c*) Total (lines D-2 (*a*) and D-2 (*b*))____do____	196, 730	261, 698	209, 843	171, 709	199, 906	141, 073	149, 563	258, 456
3. (*a*) Expenditures during each period which relate to finding oil_do____	106, 137	128, 525	121, 922	103, 462	119, 755	127, 802	159, 419	246, 690
(*b*) Overhead applicable to exploration—from line D-5 (*c*)_____do____	6, 495	7, 652	8, 112	7, 700	8, 483	10, 332	12, 316	14, 169
(*c*) Total (lines D-3 (*a*) and D-3 (*b*))____do____	112, 631	136, 177	130, 034	111, 162	128, 138	138, 134	171, 735	260, 859
E. Production expense:								
1. Operating expense____do____	97, 818	119, 319	122, 499	120, 010	134, 713	146, 783	167, 504	200, 331
2. Exploratory and dry hole costs written off____do____	80, 354	99, 807	107, 799	102, 346	104, 964	117, 161	124, 775	184, 383
3. General and administrative expenses____do____	30, 721	37, 059	38, 247	36, 473	41, 233	44, 955	49, 254	56, 288
4. Depletion of leasehold and land costs____do____	27, 211	30, 055	27, 351	25, 983	24, 024	24, 817	26, 355	31, 902
5. Depreciation of tangible assets____do____	49, 541	62, 849	61, 045	63, 374	68, 725	71, 623	74, 679	81, 822
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized____do____	15, 401	22, 947	25, 017	29, 035	35, 687	34, 375	39, 978	48, 154
(*b*) Expenditures, if written off currently____do____	28, 975	36, 020	29, 789	27, 336	37, 036	26, 686	29, 335	54, 504
7. Total (lines E-1 through 6 (*b*))____do____	330, 021	408, 055	411, 748	404, 557	446, 381	466, 400	511, 880	657, 383
F. (Do not make any entries on this line)____do____	146, 906	190, 224	123, 412	102, 775	179, 757	191, 877	264, 594	257, 515
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land____do____	931, 138	951, 521	970, 905	952, 479	978, 605	1, 013, 314	1, 090, 398	1, 153, 967
(*b*) Equipment, buildings, etc____do____	959, 996	1, 059, 999	1, 125, 171	1, 104, 963	1, 207, 561	1, 234, 871	1, 279, 208	1, 368, 770
(*c*) Intangible drilling and development____do____	556, 783	661, 388	743, 452	798, 651	958, 161	1, 013, 716	1, 070, 349	1, 184, 450
(*d*) Other (specify)____do____	62, 327	72, 521	58, 230	60, 410	67, 703	60, 758	66, 667	84, 428
(*e*) Total (lines H-1 (*a*) through (*d*))____do____	2, 510, 244	2, 745, 430	2, 897, 759	2, 916, 504	3, 212, 031	3, 322, 659	3, 506, 622	3, 791, 623
2. Inventories of crude oil, materials and supplies____do____	70, 886	84, 685	64, 028	56, 478	75, 365	61, 766	69, 994	83, 681
3. Total (lines H-1 (*e*) and H-2))____do____	2, 581, 130	2, 830, 115	2, 961, 787	2, 972, 982	3, 287, 395	3, 384, 426	3, 576, 616	3, 875, 304

4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land ..... do	481,426	500,670	523,568	497,898	528,766	545,123	557,644	578,288
(b) Depreciation of tangible assets ..... do	673,801	714,375	748,090	742,596	816,242	862,399	935,400	991,404
(c) Amortization of intangible drilling and development costs ..... do	246,299	284,554	317,374	349,708	442,994	480,190	527,035	593,231
(d) Other (specify) ..... do	17,652	17,832	16,008	17,823	19,874	22,292	21,438	22,601
(e) Total (lines H-4 (a) through (d)) ..... do	1,419,179	1,517,432	1,605,040	1,608,026	1,807,875	1,910,004	2,041,518	2,185,525
5. Line H-3 minus H-4 (e) ..... do	1,161,951	1,312,684	1,356,747	1,364,956	1,479,520	1,474,420	1,535,098	1,689,779

CLASS 1—SEGMENT 1

A. Well and engineering data:								
1. Average number of wells producing during each period	61,542	66,599	71,267	74,045	80,669	84,215	85,259	87,005
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)	5,144	6,742	5,287	5,050	5,259	2,831	2,444	3,498
(b) Average depth (in feet) per well	3,706	3,927	3,959	3,869	4,245	5,504	4,267	4,688
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	840,937	1,144,046	975,440	828,184	910,057	565,847	437,052	587,717
3. Dry holes:								
(a) Number completed each period	516	661	635	551	757	801	922	1,300
(b) Average depth (in feet) per well	4,199	4,467	4,796	5,136	4,897	4,781	4,914	5,034
4. Input and service wells drilled for that purpose during each period	158	199	115	91	120	107	249	168
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period	289	352	377	332	463	543	618	998
(b) Average depth (in feet) per well	4,675	5,254	5,315	5,601	5,485	5,224	5,521	5,622
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	372,851	429,690	393,922	414,233	473,458	479,080	566,011	660,608
2. Add, royalty oil including overriding royalties applicable (line B-1)	64,318	76,322	70,436	71,258	78,745	79,113	93,593	106,445
3. Total (lines B-1 and B-2)	437,169	506,012	464,358	485,491	552,203	558,193	659,604	767,053
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ..... thousands of dollars	392,906	492,825	441,040	417,953	528,845	553,299	661,841	777,324
2. Subsidy value accrued on oil shown on line B-1 ..... do								4,532
3. Gas sales from oil properties (net company working interest) ..... do	16,125	18,374	16,965	16,670	17,961	18,905	23,497	28,179
4. Other production income ..... do	2,610	3,399	2,766	2,423	3,028	2,844	2,793	3,807
5. Total (lines C-1 through C-4) ..... do	411,642	514,598	460,771	437,046	549,833	575,048	688,121	813,842

OPA crude petroleum production costs survey data—Continued

CLASS 1—SEGMENT 1—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production costs ......thousands of dollars..	85,634	103,161	107,649	105,926	122,711	133,142	152,157	183,1785
(*b*) Overhead applicable to production—from line D-5 (*a*) ......do....	5,654	6,503	7,868	7,958	8,614	11,335	11,787	10,63
(*c*) Total (lines D-1 (*a*) and D-1 (*b*)) ......do....	91,288	109,664	115,517	113,884	131,325	144,477	163,944	193,813
2. (*a*) Development cost of productive oil wells completed during each period ......thousands of dollars..	159,479	213,691	170,263	139,348	164,005	111,220	117,907	212,323
(*b*) Overhead applicable to development—from line D-5 (*b*)...do....	9,888	12,305	10,963	8,966	10,423	8,869	8,854	12,521
(*c*) Total (lines D-2 (*a*) and D-2 (*b*)) ......do....	169,367	225,996	181,226	148,314	174,428	120,089	126,761	224,844
3. (*a*) Expenditures during each period which relate to finding oil thousands of dollars..	96,643	116,547	110,124	92,543	107,797	114,405	142,600	223,419
(*b*) Overhead applicable to exploration—from line D-5(*c*) ......do....	5,621	6,744	7,121	6,566	7,292	8,966	10,742	12,283
(*c*) Total (lines D-3 (*a*) and D-3 (*b*)) ......do....	102,264	123,291	117,245	99,109	115,089	123,371	153,342	235,702
E. Production expense:								
1. Operating expense ......do....	82,499	99,561	103,845	101,853	116,671	127,065	144,978	175,035
2. Exploratory and dry-hole costs written off ......do....	73,838	90,450	98,867	94,641	95,092	106,333	112,542	167,114
3. General and administrative expenses ......do....	25,176	30,664	31,385	29,384	34,279	37,596	41,153	47,320
4. Depletion of leasehold and land costs ......do....	23,868	25,981	23,419	22,441	20,213	20,924	22,693	27,377
5. Depreciation of tangible assets ......do....	43,565	55,338	52,899	55,056	61,252	63,748	66,314	72,675
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized ......do....	14,131	20,773	22,830	26,373	33,149	32,245	37,570	45,566
(*b*) Expenditures, if written off currently ......do....	18,900	22,325	20,611	18,669	25,660	16,309	18,437	36,733
7. Total (lines E-1 through 6 (*b*)) ......do....	281,977	345,092	353,857	348,418	386,317	404,221	443,687	571,821
F. (Do not make any entries on this line) ......do....	129,665	169,506	106,914	88,628	163,516	170,827	244,434	242,021
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land ......do....	854,595	872,932	888,360	872,169	895,691	927,782	989,639	1,039,765
(*b*) Equipment, buildings, etc ......do....	786,639	871,206	926,347	971,897	1,058,996	1,080,902	1,115,894	1,192,827
(*c*) Intangible drilling and development ......do....	501,815	594,574	667,517	715,511	867,536	916,258	964,815	1,063,349
(*d*) Other (specify) ......do....	59,099	64,097	54,019	56,345	62,811	55,548	60,600	76,599

(e) Total (lines H-1 (a) through (d)) do	2,202,058	2,402,808	2,536,243	2,615,922	2,885,034	2,980,491	3,130,948	3,372,539
2. Inventories of crude oil, materials, and supplies do	67,592	80,153	59,960	52,107	68,838	55,008	61,719	74,706
3. Total (lines H-1 (e) and H-2)) do	2,269,650	2,482,961	2,596,203	2,668,030	2,953,872	3,035,498	3,192,667	3,447,245
4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land do	407,776	424,765	445,541	448,573	472,135	486,719	499,978	516,545
(b) Depreciation of tangible assets do	579,547	614,158	641,975	669,900	736,968	777,647	823,508	871,787
(c) Amortization of intangible drilling and development costs thousands of dollars	205,103	233,541	260,796	288,494	374,135	404,713	444,981	497,807
(d) Other (specify) do	17,234	17,324	15,515	17,455	19,299	21,593	20,708	21,794
(e) Total (lines H-4 (a) through (d)) do	1,209,660	1,289,788	1,363,827	1,424,422	1,602,537	1,690,672	1,789,175	1,907,933
5. Line H-3 minus H-4 (e) do	1,059,990	1,193,172	1,232,376	1,243,608	1,351,335	1,344,826	1,403,492	1,539,312

CLASS 1—SEGMENT 2

A. Well and engineering data:								
1. Average number of wells producing during each period	19,252	18,525	20,276	20,415	14,897	15,189	15,743	16,792
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)	627	851	627	418	835	584	685	895
(b) Average depth (in feet) per well	3,333	3,387	4,166	4,980	3,262	3,626	3,241	3,334
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	66,296	73,349	75,142	77,512	86,824	70,809	52,551	74,508
3. Dry holes:								
(a) Number completed each period	73	124	103	90	114	144	186	223
(b) Average depth (in feet) per well	4,134	3,657	4,004	3,820	4,227	4,439	4,500	4,607
4. Input and service wells drilled for that purpose during each period	143	146	100	46	312	369	395	536
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period	91	147	145	123	139	147	192	205
(b) Average depth (in feet) per well	4,445	4,157	5,165	4,905	4,586	4,512	4,794	4,894
B. Production in barrels (thousands):								
1. Net company working interest, domestic crude oil produced	36,942	45,795	44,329	44,620	45,831	47,659	52,900	63,330
2. Add, royalty oil including overriding royalties applicable (line B-1)	5,026	6,088	6,166	5,995	6,377	7,020	7,755	8,712
3. Total (lines B-1 and B-2)	41,968	51,883	50,495	50,615	52,208	54,679	60,655	72,042
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 thousands of dollars	44,303	58,742	52,685	49,233	54,243	61,643	67,416	79,098
2. Subsidy value accrued on oil shown on line B-1 do								1,315
3. Gas sales from oil properties (net company working interest) do	3,457	3,888	3,941	3,469	3,128	2,621	2,963	3,501
4. Other production income do	697	839	697	621	298	320	346	524
Total (lines C-1 through C-4) do	48,457	63,469	57,323	53,323	57,669	64,584	70,725	84,438

OPA crude petroleum production costs survey data—Continued

CLASS 1—SEGMENT 2—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production costs .... thousands of dollars	12,965	17,182	16,767	16,418	15,445	16,710	19,290	22,850
(*b*) Overhead applicable to production—from line D-5 (*a*) ...... do	1,245	1,434	1,573	1,732	1,515	1,819	2,027	1,876
(*c*) Total (lines D-1 (*a*) and D-1 (*b*)) ...... do	14,210	18,616	18,340	18,150	16,960	18,529	21,317	24,726
2. (*a*) Development cost of productive oil wells completed during each period .... thousands of dollars	16,624	22,707	20,077	16,122	17,207	14,653	16,379	26,440
(*b*) Overhead applicable to development—from line D-5 (*b*) ...... do	1,317	1,514	1,610	1,526	1,570	1,454	1,490	1,966
(*c*) Total (lines D-2 (*a*) and D-2 (*b*)) ...... do	17,941	24,221	21,687	17,648	18,777	16,107	17,869	28,406
3. (*a*) Expenditures during each period which relate to finding oil .... thousands of dollars	7,673	10,343	9,988	9,147	9,904	11,244	14,421	20,013
(*b*) Overhead applicable to exploration—from line D-5 (*c*) ...... do	665	750	799	874	923	1,022	1,206	1,390
(*c*) Total (lines D-3 (*a*) and D-3 (*b*)) ...... do	8,337	11,093	10,787	10,020	10,827	12,266	15,627	21,403
E. Production expense:								
1. Operating expense ...... do	10,978	14,429	13,443	12,950	12,359	13,830	16,307	19,252
2. Exploratory and dry-hole costs written off ...... do	5,611	8,274	7,564	6,666	8,442	9,053	10,619	14,907
3. General and administrative expenses ...... do	3,884	4,599	5,125	5,186	4,883	5,162	5,804	6,629
4. Depletion of leasehold and land costs ...... do	1,738	2,435	2,420	2,099	2,292	2,650	2,570	3,608
5. Depreciation of tangible assets ...... do	4,383	5,509	5,874	5,946	5,232	5,708	6,047	7,069
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized ...... do	943	1,664	1,756	2,156	1,744	1,725	2,016	2,240
(*b*) Expenditures, if written off currently ...... do	7,267	9,200	6,334	6,123	8,480	8,230	9,306	16,105
7. Total (lines E-1 through 6 (*b*)) ...... do	34,804	46,111	42,516	41,126	43,433	46,357	52,669	69,811
F. (Do not make any entries on this line) ...... do	13,653	17,359	14,806	12,198	14,236	18,227	18,056	14,627
H. Crude-oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land ...... do	44,341	46,014	50,241	47,060	50,273	53,732	68,195	85,947
(*b*) Equipment, buildings, etc ...... do	145,510	156,400	164,455	96,529	109,204	114,661	123,784	138,905
(*c*) Intangible drilling and development ...... do	43,539	53,793	62,309	68,465	74,886	81,434	88,722	102,950
(*d*) Other (specify) ...... do	2,615	7,559	3,289	3,103	3,714	4,093	4,934	6,739
(*e*) Total (lines H-1 (*a*) through (*d*)) ...... do	236,005	263,765	280,294	215,159	238,078	253,921	285,636	334,540

2. Inventories of crude oil, materials, and supplies .... do	2,756	3,807	3,342	3,637	5,267	5,479	6,544	7,469
3. Total (lines H-1 (*e*) and H-2) .... do	238,760	267,572	283,636	218,797	243,345	259,400	292,180	342,009
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land .... do	58,747	60,373	61,297	31,140	38,431	40,098	38,755	45,515
(*b*) Depreciation of tangible assets .... do	78,937	83,567	88,018	52,032	57,130	61,946	82,773	91,926
(*c*) Amortization of intangible drilling and development costs thousands of dollars ..	35,659	44,326	49,270	53,035	59,990	65,820	71,979	84,479
(*d*) Other (specify) .... do	324	384	282	156	199	233	326	356
(*e*) Total (lines H-4 (*a*) through (*d*)) .... do	173,667	188,650	198,867	136,363	155,751	168,097	193,833	222,276
5. Line H-3 minus H-4 (*e*) .... do	65,093	78,922	84,769	82,434	87,594	91,303	98,347	119,732

CLASS 1—SEGMENT 4

A. Well and engineering data:								
1. Average number of wells producing during each period	6,944	7,238	7,417	7,660	7,902	7,928	7,989	8,011
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)	561	707	531	522	630	401	260	282
(*b*) Average depth (in feet) per well	2,286	2,391	2,452	2,329	2,406	2,299	2,903	2,596
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands).	21,304	25,151	23,386	17,943	23,663	17,623	18,018	15,097
3. Dry holes:								
(*a*) Number completed each period	112	97	77	78	114	105	121	148
(*b*) Average depth (in feet) per well	2,071	2,524	2,752	2,743	2,922	3,240	3,245	3,473
4. Input and service wells drilled for that purpose during each period	292	604	228	286	271	283	99	67
5. Exploratory wells (included in A-2 (*a*) and A-3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period	325	430	356	314	390	302	123	107
(*b*) Average depth (in feet) per well	1,737	1,830	1,916	1,883	1,924	2,175	2,960	3,715
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	12,763	15,165	14,446	14,697	14,415	13,997	13,140	12,761
2. Add, royalty oil including overriding royalties applicable (line B-1) ..	2,317	2,893	3,111	2,688	2,426	2,346	2,264	2,175
3. Total (lines B-1 and B-2)	15,080	18,058	17,557	17,385	16,841	16,343	15,404	14,936
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 .... (thousands of dollars) ..	16,233	19,569	16,474	16,403	18,097	18,126	17,101	15,774
2. Subsidy value accrued on oil shown on line B-1 .... do								283
3. Gas sales from oil properties (net company working interest) .... do	464	532	495	465	447	410	432	453
4. Other production income .... do	130	110	97	95	92	110	95	108
5. Total (lines C-1 through C-4) .... do	16,827	20,212	17,066	16,963	18,636	18,646	17,628	16,618

OPA crude petroleum production costs survey data—Continued

CLASS 1—SEGMENT 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production costs...thousands of dollars..	4, 485	5, 499	5. 430	5, 387	5, 891	6, 110	6, 420	6, 316
(*b*) Overhead applicable to production—from line D-5 (*a*)...do....	777	768	917	1, 082	1, 263	1, 392	1, 374	1, 375
(*c*) Total (lines D-1 (*a*) and D-1 (*b*))...do....	5, 262	6, 267	6, 347	6, 469	7, 154	7, 502	7, 794	7, 690
2. (*a*) Development cost of productive oil wells completed during each period...Thousands of dollars	8, 759	10, 632	6, 312	5, 163	6, 112	4, 414	4, 386	4, 719
(*b*) Overhead applicable to development—from line D-5 (*b*)...do....	663	849	618	584	588	463	547	487
(*c*) Total (lines D-2 (*a*) and D-2 (*b*))...do....	9, 422	11, 481	6, 930	5, 747	6, 700	4, 877	4, 933	5, 206
3. (*a*) Expenditures during each period which relate to finding oil..do....	1, 821	1, 636	1, 809	1, 772	2, 054	2, 153	2, 398	3, 259
(*b*) Overhead applicable to exploration—from line D-5 (*c*)...do....	209	158	192	261	268	344	369	495
(*c*) Total (lines D-3 (*a*) and D-3 (*b*))...do....	2, 030	1, 794	2, 001	2, 033	2, 323	2, 497	2, 767	3, 754
E. Production expense:								
1. Operating expense...do....	4, 341	5, 330	5, 211	5, 207	5. 683	5, 887	6, 220	6, 045
2. Exploratory and dry hole costs written off...do....	905	1, 083	1, 368	1, 038	1, 429	1, 776	1, 614	2, 362
3. General and administrative expenses...do....	1, 661	1, 796	1, 736	1, 903	2, 070	2, 198	2, 296	2, 339
4. Depletion of leasehold and land costs...do....	1, 604	1, 638	1, 512	1, 443	1, 518	1, 243	1, 092	917
5. Depreciation of tangible assets...do....	1, 593	2, 002	2, 272	2, 371	2, 241	2, 167	2, 318	2, 077
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized...do....	328	510	431	506	794	405	391	347
(*b*) Expenditures, if written off currently...do....	2, 808	4, 494	2, 344	2, 544	2, 895	2, 147	1, 592	1, 664
7. Total (lines E-1 through 6 (*b*))...do....	13, 240	16, 852	15, 375	15, 013	16, 631	15, 822	15, 523	15, 751
F. (Do not make any entries on this line)...do....	3, 587	3, 359	1, 691	1, 949	2, 005	2, 857	2, 105	1, 006
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land...do....	32, 203	32, 576	32, 304	33, 250	32, 640	31, 800	32, 564	28, 255
(*b*) Equipment, buildings, etc...do....	27, 847	32, 395	34, 369	36, 537	39, 361	39, 307	39, 530	37, 038
(*c*) Intangible drilling and development...do....	11, 429	13, 021	13, 626	14, 674	15, 739	16, 024	16, 812	18, 160
(*d*) Other (specify)...do....	703	865	922	962	1, 178	1, 117	1, 133	1, 090
(*e*) Total (lines H-1 (*a*) through (*d*))...do....	72, 182	78, 857	81, 221	85, 423	88, 918	88, 248	90, 038	84, 543

2. Inventories of crude oil, materials, and supplies ... do	538	725	726	733	1,260	1,279	1,730	1,505
3. Total (lines H-1 (*e*) and H-2) ... do	72,720	79,582	81,947	86,156	90,178	89,526	91,768	86,048
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land ... do	14,903	15,532	16,730	18,185	18,200	18,306	18,911	16,226
(*b*) Depreciation of tangible assets ... do	15,317	16,650	18,097	20,664	22,144	22,806	29,119	27,692
(*c*) Amortization of intangible drilling and development costs Thousands of dollars	5,537	6,687	7,308	8,179	8,869	9,657	10,075	10,945
(*d*) Other (specify) ... do	95	123	211	213	375	467	405	451
(*e*) Total (lines H-4 (*a*) through (*d*)) ... do	35,851	38,993	42,345	47,241	49,588	51,236	58,510	55,315
5. Line H-3 minus H-4 (*e*) ... do	36,869	40,589	39,602	38,915	40,590	38,291	33,258	30,734

CLASS 2—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4

A. Well and engineering data:								
1. Average number of wells producing during each period	...	500	1,596	1,673	2,178	2,603	2,647	2,653
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)	...	135	191	155	238	68	122	120
(*b*) Average depth (in feet) per well	...	4,128	4,230	4,224	4,054	3,567	3,246	4,282
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	...	7,842	21,943	17,056	24,528	5,088	10,005	10,654
3. Dry holes:								
(*a*) Number completed each period	...	43	37	64	81	65	87	100
(*b*) Average depth (in feet) per well	...	2,758	3,516	3,393	3,690	3,628	3,726	3,847
4. Input and service wells drilled for that purpose during each period	...	1	1	3	1	4	5	3
5. Exploratory wells (included in A-2 (*a*) and A-3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period	...	68	45	67	110	65	79	110
(*b*) Average depth (in feet) per well	...	3,916	4,105	3,681	4,054	3,757	4,334	4,267
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	...	4,922	14,365	14,629	17,797	21,506	18,334	17,589
2. Add, royalty oil including overriding royalties applicable (line B-1)	...	733	2,972	2,535	3,496	4,106	3,477	3,280
3. Total (lines B-1 and B-2)	...	5,655	17,337	17,164	21,293	25,612	21,811	20,869
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ... thousands of dollars	...	5,738	17,041	15,092	19,205	23,664	21,390	21,153
2. Subsidy value accrued on oil shown on line B-1 ... do	...	...	...	...	...	...	...	131
3. Gas sales from oil properties (net company working interest) ... do	...	285	683	568	430	493	662	726
4. Other production income ... do	...	11	114	105	128	218	549	1,230
5. Total (lines C-1 through C-4) ... do	...	6,034	17,838	15,765	19,763	24,375	22,601	23,240

OPA crude petroleum production costs survey data—Continued

CLASS 2—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production costs.....thousand of dollars	----------	1,147	4,626	4,845	5,181	5,388	5,514	5,681
(*b*) Overhead applicable to production—from line D-5 (*a*).....do	----------	147	370	509	569	917	869	741
(*c*) Total (lines D-1 (*a*) and D-1 (*b*)).....do	----------	1,294	4,996	5,354	5,750	6,305	6,383	6,422
2. (*a*) Development cost of productive oil wells completed during each period.....thousands of dollars	----------	3,721	9,598	7,109	7,504	2,381	3,514	4,890
(*b*) Overhead applicable to development—from line D-5 (*b*).....do	----------	300	591	463	621	231	282	418
(*c*) Total (lines D-2 (*a*) and D-2 (*b*)).....do	----------	4,021	10,189	7,572	8,125	2,612	3,796	5,309
3. (*a*) Expenditures during each period which relate to finding oil thousands of dollars	----------	2,017	1,971	2,306	2,265	2,767	3,339	7,059
(*b*) Overhead applicable to exploration—from line D-5 (*c*).....do	----------	161	175	183	195	365	332	461
(*c*) Total (lines D-3 (*a*) and D-3 (*b*)).....do	----------	2,178	2,146	2,489	2,460	3,132	3,671	7,520
E. Production expense:								
1. Operating expense.....do	----------	938	4,200	4,283	4,789	4,842	5,160	5,503
2. Exploratory and dry hole costs written off.....do	----------	621	1,104	1,209	1,627	1,491	1,888	3,099
3. General and administrative expenses.....do	----------	638	1,594	1,619	1,725	1,870	1,994	2,464
4. Depletion of leasehold and land costs.....do	----------	309	385	458	420	432	429	456
5. Depreciation of tangible assets.....do	----------	570	1,017	1,378	1,310	1,449	1,420	1,426
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized.....do	----------	9	145	393	429	418	395	315
(*b*) Expenditures, if written off currently.....do	----------	2,015	6,177	6,285	8,123	7,754	7,376	8,220
7. Total (lines E-1 through 6 (*b*)).....do	----------	5,101	14,622	15,625	18,423	18,256	18,661	21,484
F. (Do not make any entries on this line)	----------	933	3,217	139	1,340	6,120	3,940	1,756
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land.....thousands of dollars	----------	3,915	6,010	6,746	6,907	7,262	7,860	8,509
(*b*) Equipment, buildings, etc.....do	----------	5,325	14,386	16,300	19,590	20,823	22,039	22,061
(*c*) Intangible drilling and development.....do	----------	3,203	113,739	115,268	120,485	121,394	121,132	126,318
(*d*) Other (specify).....do	----------	117	411	423	594	628	547	666
(*e*) Total (lines H-1 (*a*) through (*d*)).....do	----------	12,560	134,546	138,736	147,576	150,106	151,678	157,554

2. Inventories of crude oil, materials, and supplies ..... do		253	1,168	845	1,646	1,604	1,501	2,155
3. Total (lines H-1 (*c*) and H-2) ..... do		12,813	135,714	139,582	149,222	151,710	153,079	159,709
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land ..... do		1,190	2,574	3,006	2,774	3,250	3,455	3,822
(*b*) Depreciation of tangible assets ..... do		1,819	20,869	21,305	25,910	31,405	34,762	38,168
(*c*) Amortization of intangible drilling and development costs thousands of dollars		3,065	8,923	10,814	14,244	14,814	15,831	16,764
(*d*) Other (specify) ..... do			13	21	20	2	2	3
(*e*) Total (lines H-4 (*a*) through (*d*)) ..... do		6,074	32,379	35,146	42,949	49,471	54,050	58,758
5. Line H-3 minus H-4 (*e*) ..... do		6,739	103,335	104,436	106,272	102,239	99,029	100,951

CLASS 2—SEGMENT 1

A. Well and engineering data:								
1. Average number of wells producing during each period		67	85	91	99	102	99	99
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)		18	6	10	13	1	2	2
(*b*) Average depth (in feet) per well		4,250	4,000	4,350	4,000	4,200	3,600	4,000
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) thousands)		328	120	200	80	15	30	20
3. Dry holes:								
(*a*) Number completed each period		5	2	1	1	3		2
(*b*) Average depth (in feet) per well		3,000	3,500	4,000	3,500	4,200		3,500
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (*a*) and A-3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period		3	6	1	1	3		2
(*b*) Average depth (in feet) per well		3,000	4,000	4,000	3,500	4,200		4,000
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced		226	194	203	177	184	203	164
2. Add, royalty oil including overriding royalties applicable (line B-1)								
3. Total (lines B-1 and B-2)		226	194	203	177	184	203	164
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1		245	191	177	215	237	214	195
2. Subsidy value accrued on oil shown on line B-1	do							
3. Gas sales from oil properties (net company working interest)	do	7	6	7	6	6	5	5
4. Other production income	do	4	6	5	5	5	4	5
5. Total (lines C-1 through C-4)	do	256	203	189	226	248	223	204

OPA crude petroleum production costs survey data—Continued

CLASS 2—SEGMENT 1—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production .... Thousands of dollars		66	76	70	76	79	78	90
(*b*) Overhead applicable to production—from line D-5 (*a*) .... do		13	18	12	27	20	29	25
(*c*) Total (lines D-1 (*a*) and D-1 (*b*)) .... do		79	94	82	103	99	107	115
2. (*a*) Development cost of productive oil wells completed during each period .... do		111	52	113	16	11	14	17
(*b*) Overhead applicable to development—from line D-5 (*b*) .... do		22	12	20	6	3	5	4
(*c*) Total (lines D-2 (*a*) and D-2 (*b*)) .... do		133	64	133	22	14	19	21
3. (*a*) Expenditures during each period which relate to finding oil .... do		59	19	15	8	28		26
(*b*) Overhead applicable to exploration—from line D-5(*c*) .... do		11	5	3	3	7		7
(*c*) Total (lines D-3 (*a*) and D-3 (*b*)) .... do		70	24	18	11	35		33
E. Production expense:								
1. Operating expense .... do		66	76	69	76	79	78	90
2. Exploratory and dry hole costs written off .... do		59	19	15	8	28		26
3. General and administrative expenses .... do		46	35	35	35	30	35	37
4. Depletion of leasehold and land costs .... do		52	37	37	41	55	42	37
5. Depreciation of tangible assets .... do		33	29	31	35	46	42	36
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized .... do								
(*b*) Expenditures, if written off currently .... do		111	52	113	16	11	14	22
7. Total (lines E-1 through 6(*b*)) .... do		367	248	301	212	248	211	248
F. (Do not make any entries on this line) .... do		(J 111)	[1](45)	[1](111)	14		12	[1](10)
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land .... do		549	528	543	521	540	530	531
(*b*) Equipment, buildings, etc .... do		298	331	383	402	426	428	419
(*c*) Intangible drilling and development .... do								
(*d*) Other (specify) .... do		8	8	8	9	13	13	11
(*e*) Total (lines H-1 (*a*) through (*d*)) .... do		854	868	935	932	979	970	961
2. Inventories of crude oil, materials and supplies .... do		4	4	2	10	2	2	8

3. Total (lines H-1 (e) and H-2) ... do		858	872	937	942	981	972	969
4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land ... do		166	197	228	276	309	330	353
(b) Depreciation of tangible assets ... do		88	115	140	186	206	235	259
(c) Amortization of intangible drilling and development costs ... do								
(d) Other (specify) ... do								
(e) Total (lines H-4 (a) through (d)) ... do		254	311	368	462	515	564	612
5. Line H-3 minus H-4 (e) ... do		605	561	569	480	466	408	356

CLASS 2—SEGMENT 2

A. Well and engineering data:								
1. Average number of wells producing during each period		284	702	728	795	814	805	807
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)		46	89	53	69	8	14	21
(b) Average depth (in feet) per well		4,337	5,151	5,796	5,001	6,140	4,200	7,243
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)		3,415	9,331	7,392	13,500	731	1,240	3,815
3. Dry holes:								
(a) Number completed each period		1	4	4	16	10	22	21
(b) Average depth (in feet) per well		7,783	5,683	5,846	5,156	5,404	4,917	5,306
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period		1	3	4	12	8	22	24
(b) Average depth (in feet)		7,783	6,298	5,160	4,937	5,400	4,908	5,567
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced		1,850	9,386	8,119	11,405	15,338	11,002	10,927
2. Add, royalty oil including overriding royalties applicable (line B-1)		374	2,097	1,588	2,248	2,992	2,316	2,147
3. Total (lines B-1 and B-2)		2,224	11,483	9,707	13,653	18,330	13,918	13,074
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ... thousands of dollars		2,404	11,480	8,611	11,755	16,238	13,395	13,186
2. Subsidy value accrued on oil shown on line B-1 ... do								130
3. Gas sales from oil properties (net company working interest) ... do		42	499	425	249	239	283	332
4. Other productive income ... do		1	36	27	23	128	385	1,105
5. Total (lines C-1 through C-4) ... do		2,448	12,016	9,063	12,027	16,606	14,063	14,752

OPA crude petroleum production costs survey data—Continued

CLASS 2—SEGMENT 2—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (a) Production costs .... thousands of dollars	------	342	2,477	2,439	2,660	2,833	2,762	2,946
(b) Overhead applicable to production—from line D-5 (a) ...do	------	25	173	290	261	534	435	307
(c) Total (lines D-1 (a) and D-1 (b)) ...do	------	367	2,649	2,729	2,921	3,367	3,197	3,253
2. (a) Development cost of productive oil wells completed during each period .... thousands of dollars	------	1,189	6,189	3,259	3,354	457	948	1,937
(b) Overhead applicable to development—from line D-5 (b) ...do	------	87	407	274	330	80	121	231
(c) Total (lines D-2 (a) and D-2 (b)) ...do	------	1,276	6,596	3,532	3,684	537	1,069	2,168
3. (a) Expenditures during each period which relate to finding oil .... thousands of dollars	------	1,058	1,174	1,206	1,172	1,626	1,915	4,704
(b) Overhead applicable to exploration—from line D-5 (c) ...do	------	77	74	97	109	214	176	267
(c) Total (lines D-3 (a) and D-3 (b)) ...do	------	1,135	1,248	1,303	1,281	1,840	2,091	4,971
E. Production expense:								
1. Operating expense ...do	------	343	2,455	2,420	2,648	2,699	2,739	2,941
2. Exploratory and dry hole costs written off ...do	------	238	661	534	853	906	1,022	1,591
3. General and administrative expenses ...do	------	333	936	904	940	1,091	1,129	1,516
4. Depletion of leasehold and land costs ...do	------	57	56	57	96	96	94	181
5. Depreciation of tangible assets ...do	------	244	311	478	353	475	451	481
6. Intangible drilling and development costs:								
(a) Amortization, if capitalized ...do	------	------	------	------	13	6	6	11
(b) Expenditures, if written off currently ...do	------	644	5,123	4,835	6,532	7,020	6,368	6,698
7. Total (lines E-1 through 6 (b)) ...do	------	1,859	9,542	9,228	11,465	12,293	11,810	13,419
F. (Do not make any entries on this line) ...do	------	588	2,474	(164)	562	4,312	2,253	1,333
H. Crude oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land ...do	------	542	573	693	1,531	1,531	1,484	1,485
(b) Equipment, buildings, etc ...do	------	2,803	3,468	3,991	5,277	5,595	5,820	5,935
(c) Intangible drilling and development ...do	------	2,339	106,901	106,771	109,694	109,996	109,078	113,631
(d) Other (specify) ...do	------	84	107	113	117	137	171	205
(e) Total (lines H-1 (a) through (d)) ...do	------	5,768	111,049	111,569	116,619	117,259	116,554	121,255

2. Inventories of crude oil, materials, and supplies..thousands of dollars..		68	809	583	1,116	1,131	974	1,638
3. Total (lines H-1 (*e*) and H-2)....do....		5,836	111,858	112,152	117,735	118,390	117,528	122,893
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land....do....		227	262	305	480	561	621	802
(*b*) Depreciation of tangible assets....do....		1,034	14,009	13,883	17,734	22,390	25,060	28,480
(*c*) Amortization of intangible drilling and development costs thousands of dollars..		2,339	3,431	4,176	5,616	5,544	5,796	6,387
(*d*) Other (specify)....								
(*e*) Total (lines H-4 (*a*) through (*d*))..thousands of dollars..		3,600	17,702	18,363	23,830	28,495	31,478	35,669
5. Line H-3 minus H-4 (*e*)....do....		2,236	94,157	93,788	93,905	89,896	86,049	87,224

CLASS 2—SEGMENT 4

A. Well and engineering data:								
1. Average number of wells producing during each period....		149	809	854	1,284	1,687	1,743	1,747
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)....		71	96	92	166	59	106	96
(*b*) Average depth (in feet) per well....		3,962	3,391	3,358	3,661	4,111	3,736	5,353
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)....		4,098	12,491	9,465	10,948	4,342	8,735	6,819
3. Dry holes:								
(*a*) Number completed each period....		37	31	59	64	52	65	77
(*b*) Average depth (in feet)....		2,590	3,237	3,216	3,248	3,253	3,323	3,548
4. Input and service wells drilled for that purpose during each period....		1	1	3	1	4	5	3
5. Exploratory wells (included in A-2 (a) and A-3 (*a*) above:								
(*a*) Number of exploratory wells drilled each period....		64	36	62	97	54	57	84
(*b*) Average depth (in feet)....		3,898	3,927	3,580	3,950	3,489	4,112	3,901
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced....		2,846	4,786	6,307	6,215	5,984	6,528	6,499
2. Add, royalty oil including overriding royalties applicable (line B-1)....		359	875	948	1,248	1,114	1,161	1,133
3. Total (lines B-1 and B-2)....		3,205	5,661	7,255	7,463	7,098	7,689	7,632
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1....thousands of dollars.		3,089	5,369	6,303	7,235	7,189	7,781	7,773
2. Subsidy value accrued on oil shown on line B-1....do....								130
3. Gas sales from oil properties (net company working interest)..do....		236	177	135	175	248	374	389
4. Other production income....do....		6	72	73	100	85	160	120
5. Total (lines C-1 through C-4)....do....		3,331	5,618	6,511	7,510	7,522	8,315	8,412

***OPA crude petroleum production costs survey data*—Continued**

CLASS 2—SEGMENT 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (a) Production costs......Thousands of dollars	....	739	2,074	2,336	2,445	2,477	2,673	2,645
(b) Overhead applicable to production—from line D-5 (a).....do....	....	110	179	207	282	364	405	409
(c) Total (lines D-1 (a) and D-1 (b))......do....	....	849	2,253	2,543	2,727	2,841	3,078	3,054
2. (a) Development cost of productive oil wells completed during each period......thousands of dollars..	....	2,421	3,357	3,738	4,133	1,913	2,552	2,936
(b) Overhead applicable to development—from line D-5 (b)...do....	....	192	172	169	285	148	155	183
(c) Total (lines D-2 (a) and D-2 (b))......do....	....	2,613	3,529	3,907	4,418	2,061	2,707	3,119
3. (a) Expenditures during each period which relate to finding oil.do....	....	900	778	1,085	1,085	1,113	1,424	2,329
(b) Overhead applicable to exploration—from line D-5 (c).....do....	....	72	97	84	84	144	156	187
(c) Total (lines D-3 (a) and D-3 (b))......do....	....	972	875	1,169	1,169	1,257	1,580	2,516
E. Production expense:								
1. Operating expense......do....	....	528	1,669	1,793	2,064	2,065	2,343	2,472
2. Exploratory and dry hole costs written off......do....	....	325	425	660	767	557	866	1,481
3. General and administrative expenses......do....	....	259	622	680	750	749	830	912
4. Depletion of leasehold and land costs......do....	....	200	292	365	282	281	293	238
5. Depreciation of tangible assets......do....	....	294	677	869	892	927	926	909
6. Intangible drilling and development costs:								
(a) Amortization, if capitalized......do....	....	9	145	393	416	412	388	304
(b) Expenditures, if written off currently......do....	....	1,259	1,002	1,337	1,574	724	993	1,501
7. Total (lines E-1 through 6 (b))......do....	....	2,875	4,832	6,097	6,746	5,715	6,640	7,817
F. (Do not make any entries on this line)......do....	....	456	787	415	764	1,807	1,676	595
H. Crude-oil-production assets:								
1. Fixed assets:								
(a) Leaseholds and land......do....	....	2,824	4,909	5,509	4,854	5,191	5,846	6,493
(b) Equipment, buildings, etc......do....	....	2,225	10,586	11,926	13,911	14,801	15,791	15,707
(c) Intangible drilling and development......do....	....	864	6,838	8,497	10,791	11,397	12,054	12,687
(d) Other (specify)......do....	....	25	296	302	468	479	363	450
(e) Total (lines H-1 (a) through (d))......do....	....	5,938	22,629	26,233	30,024	31,868	34,054	35,338

2. Inventories of crude oil, materials, and supplies ... do		181	355	261	519	471	526	509
3. Total (lines H-1 (*e*) and H-2) ... do		6,119	22,984	26,494	30,543	32,339	34,580	35,847
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land ... do		796	2,115	2,473	2,018	2,380	2,503	2,668
(*b*) Depreciation of tangible assets ... do		697	6,746	7,283	7,990	8,810	9,467	9,429
(*c*) Amortization of intangible drilling and development costs ... thousands of dollars		726	5,492	6,638	8,628	9,270	10,035	10,377
(*d*) Other (specify) ... do			13	21	20	1	2	3
(*e*) Total (lines H-4 (*a*) through (*d*)) ... do		2,219	14,366	16,415	18,656	20,462	22,007	22,477
5. Line H-3 minus H-4 (*e*) ... do		3,899	8,618	10,079	11,887	11,877	12,572	13,370

CLASS 3—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4

A. Well and engineering data:	No data.							
1. Average number of wells producing during each period								
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)								
(*b*) Average depth (in feet)								
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels)								
3. Dry holes:								
(*a*) Number completed each period								
(*b*) Average depth (in feet)								
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (*a*) and A-3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period								
(*b*) Average depth (in feet)								
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	10,271	11,610	10,167	9,062	8,558	8,521	9,005	9,713
2. Add, royalty oil including overriding royalties applicable (line B-1)	1,582	2,017	2,004	1,922	2,083	1,779	2,100	2,171
3. Total (lines B-1 and B-2)	11,853	13,627	12,170	10,984	10,641	10,300	11,105	11,884
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ... thousands of dollars	11,265	13,564	11,440	9,088	9,244	9,657	10,415	11,361
2. Subsidy value accrued on oil shown on line B-1 ... do						1	1	165
3. Gas sales from oil properties (net company working interest ... do	268	355	288	254	306	492	596	593
4. Other production income ... do	119	123	124	114	125	139	158	311
5. Total (lines C-1 through C-4) ... do	11,652	14,042	11,852	9,456	9,675	10,290	11,169	12,430

OPA crude petroleum production costs survey data—Continued

CLASS 3—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4—Continued

Item	Year ended Dec. 31, or—							
	1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (*a*) Production costs .... thousands of dollars	No data.							
(*b*) Overhead applicable to production—from line D-5 (*a*) ....do	No data.							
(*c*) Total (lines D-1 (*a*) and D-1 (*b*)) ....do	No data.							
2. (*a*) Development cost of productive oil wells completed during each period ....do	No data.							
(*b*) Overhead applicable to development—from line D-5 (*b*) ....do	No data.							
(*c*) Total (lines D-2 (*a*) and D-2 (*b*)) ....do	No data.							
3. (*a*) Expenditures during each period which relate to finding oil ....do	No data.							
(*b*) Overhead applicable to exploration—from line D-5 (*c*) ....do	No data.							
(*c*) Total (lines D-3 (*a*) and D-3 (*b*)) ....do	No data.							
E. Production expense:								
1. Operating expense ....do	3,022	3,548	3,472	2,161	3,064	3,347	3,906	4,775
2. Exploratory and dry hole costs written off ....do	1,243	856	1,111	1,236	1,098	1,082	1,335	1,671
3. General and administrative expenses ....do	1,048	1,274	1,335	1,223	1,251	1,306	1,441	1,568
4. Depletion of leasehold and land costs ....do	1,166	1,473	1,283	1,089	968	1,157	1,197	1,222
5. Depreciation of tangible assets ....do	883	1,190	1,248	1,202	1,072	1,177	1,126	1,181
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized ....do	189	234	172	103	175	180	273	348
(*b*) Expenditures, if written off currently ....do	1,366	1,002	1,345	992	1,335	1,336	1,173	2,766
7. Total (lines E-1 through 6 (*b*)) ....do	8,916	10,008	9,965	9,007	8,962	9,585	10,449	13,529
F. (Do not make any entries on this line) ....do	2,736	4,034	1,886	449	711	705	720	(1,099)
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land ....do	32,553	33,878	34,408	33,261	31,350	35,403	36,217	36,188
(*b*) Equipment, buildings, etc ....do	14,224	16,992	18,121	18,292	19,164	19,502	19,855	20,531
(*c*) Intangible drilling and development ....do	7,907	8,120	8,838	9,054	10,292	10,093	10,452	13,305
(*d*) Other (specify) ....do	209	218	223	209	209	314	286	287
(*e*) Total (lines H-1 (*a*) through (*d*)) ....do	54,893	59,207	61,590	60,816	61,014	65,312	66,809	70,311
2. Inventories of crude oil, materials and supplies ....do	542	880	721	489	797	752	904	948
3. Total (lines H-1 (*e*) and H-2)) ....do	55,435	60,088	62,311	61,304	61,812	66,064	67,714	71,260

4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land......thousands of dollars..	21, 187	22, 611	23, 776	23, 707	22, 611	24, 335	25, 366	25, 351
(b) Depreciation of tangible assets......do....	8, 239	9, 367	10, 408	10, 919	11, 621	11, 626	12, 199	12, 340
(c) Amortization of intangible drilling and development costs do....	5, 085	5, 353	6, 018	6, 348	7, 543	8, 400	8, 740	11, 158
(d) Other (specify)......do....	55	56	59	60	61	68	67	76
(e) Total (lines H-4 (a) through (d))......do....	34, 565	37, 388	40, 261	41, 034	41, 837	44, 429	46, 373	48, 926
5. Line H-3 minus H-4 (e)......do....	20, 870	22, 700	22, 051	20, 270	19, 975	21, 634	21, 341	22, 334

CLASS 3—SEGMENT 2

A. Well and engineering data:	No data.							
1. Average number of wells producing during each period......								
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)......								
(b) Average depth (in feet)......								
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels)......								
3. Dry holes:								
(a) Number completed each period......								
(b) Average depth (in feet)......								
4. Input and service wells drilled for that purpose during each period..								
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period......								
(b) Average depth (in feet)......								
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced......	1, 062	1, 355	1, 047	952	1, 222	1, 215	1, 320	2, 040
2. Add, royalty oil including overriding royalties applicable (line B-1)..	----	----	----	----	----	----	----	----
3. Total (lines B-1 and B-2)......	1, 062	1, 355	1, 047	952	1, 222	1, 215	1, 320	2, 040
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1......thousands of dollars..	1, 150	1, 592	1, 169	882	1, 280	1, 348	1, 442	2, 267
2. Subsidy value accrued on oil shown on line B-1......do....	----	----	----	----	----	----	----	8
3. Gas sales from oil properties (net company working interest)...do....	112	149	76	57	47	49	52	68
4. Other production income......do....	----	----	----	----	----	----	----	----
5. Total (lines C-1 through C-4)......do....	1, 262	1, 741	1, 245	939	1, 327	1, 397	1, 494	2, 343

OPA crude petroleum production costs survey data—Continued

CLASS 3—SEGMENT 2—Continued

Item	Year ended Dec. 31 or— 1936	1937	1938	1939	1941	1942	1943	1944
D. Production, development, and finding costs:								
1. (a) Production costs	No data.							
(b) Overhead applicable to production—from line D-5 (a)								
(c) Total (lines D-1 (a) and D-1 (b))								
2. (a) Development cost of productive oil wells completed during each period								
(b) Overhead applicable to development—from line D-5 (b)								
(c) Total (lines D-2 (a) and D-2 (b))								
3. (a) Expenditures during each period which relate to finding oil								
(b) Overhead applicable to exploration—from line D-5 (c)								
(c) Total (lines D-3 (a) and D-3 (b))								
E. Production expense:								
1. Operating expense (thousands of dollars)	442	464	309	276	239	370	363	414
2. Exploratory and dry hole costs written off do	349	125	185	282	306	387	568	454
3. General and administrative expenses do	146	149	167	170	226	280	338	358
4. Depletion of leasehold and land costs do	69	157	87	61	129	91	102	197
5. Depreciation of tangible assets do	178	280	225	191	93	170	145	193
6. Intangible drilling and development costs:								
(a) Amortization, if capitalized do								
(b) Expenditures, if written off currently do	564	365	407	366	542	535	612	2,220
7. Total (lines E-1 through 6 (b)) do	1,749	1,541	1,380	1,346	1,535	1,833	2,129	3,837
F. (Do not make any entries on this line)	(487)	200	(135)	(407)	(208)	(436)	(635)	(1,494)
H. Crude oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land do	664	782	850	911	1,298	1,432	1,435	1,630
(b) Equipment, buildings, etc do	1,964	2,194	2,342	2,566	2,997	3,377	3,530	4,258
(c) Intangible drilling and development do	2,384	2,651	2,933	3,211	4,094	4,627	4,953	7,032
(d) Other (specify) do	1	1	15	69	78	183	168	168
(e) Total (lines H-1 (a) through (d)) do	5,012	5,628	6,141	6,758	8,467	9,619	10,085	13,089
2. Inventories of crude oil, materials and supplies do	74	110	135	120	109	109	217	160
3. Total (lines H-1 (e) and H-2) do	5,086	5,738	6,276	6,878	8,576	9,728	10,302	13,249
4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land do	442	529	599	629	756	841	877	1,091
(b) Depreciation of tangible assets do	1,095	1,312	1,536	1,620	1,592	1,686	1,668	1,766

(c) Amortization of intangible drilling and development costs ____ do ____	2,384	2,651	2,933	3,211	4,094	4,627	4,953	7,032
(d) Other (specify) ____ do ____			2	2	6	13	23	33
(e) Total (lines H-4 (a) through (d)) ____ do ____	3,921	4,492	5,070	5,472	6,449	7,167	7,522	9,922
5. Line H-3 minus H-4 (e) ____ do ____	1,165	1,246	1,205	1,406	2,128	2,561	2,780	3,327

CLASS 3—SEGMENT 4

A. Well and engineering data:								
1. Average number of wells producing during each period	No data.							
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)								
(b) Average depth (in feet)								
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels)								
3. Dry holes:								
(a) Number completed each period								
(b) Average depth (in feet)								
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period								
(b) Average depth (in feet)								
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	9,209	10,255	9,120	8,110	7,336	7,306	7,685	7,673
2. Add, royalty oil, including overriding royalties applicable (line B-1)	1,582	2,017	2,004	1,922	2,083	1,779	2,100	2,171
3. Total (lines B-1 and B-2)	10,791	12,272	11,123	10,032	9,419	9,085	9,785	9,844
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ____ thousands of dollars	10,115	11,972	10,271	8,207	7,964	8,309	8,973	9,093
2. Subsidy value accrued on oil shown on line B-1 ____ do ____						1	1	156
3. Gas sales from oil properties (net company working interest) ____ do ____	156	207	212	197	259	444	544	526
4. Other production income ____ do ____	119	123	124	114	125	139	158	311
5. Total (lines C-1 through C-4) ____ do ____	10,390	12,302	10,607	8,518	8,348	8,894	9,676	10,087
E. Production expense:								
1. Operating expense ____ do ____	2,580	3,084	3,163	2,885	2,825	2,977	3,542	4,361
2. Exploratory and dry hole costs written off ____ do ____	894	730	926	954	793	695	766	1,217
3. General and administrative expenses ____ do ____	902	1,126	1,167	1,053	1,025	1,026	1,102	1,210
4. Depletion of leasehold and land costs ____ do ____	1,096	1,316	1,196	1,029	838	1,066	1,096	1,024
5. Depreciation of tangible assets ____ do ____	705	909	1,023	1,011	979	1,008	981	988
6. In tangible drilling and development costs:								
(a) Amortization, if capitalized ____ do ____	189	234	172	103	175	180	273	348
(b) Expenditures, if written off currently ____ do ____	802	1,137	937	627	793	801	561	545
7. Total (lines E-1 through 6 (b)) ____ do ____	7,167	8,537	8,585	7,661	7,429	7,753	8,321	9,692

OPA crude petroleum production costs survey data—Continued

CLASS 3—SEGMENT 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
F. (Do not make any entries on his line) thousands of dollars	3,223	3,764	2,021	857	919	1,141	11,355	395
G. Officers or owners compensation:								
1. Included in line E-7 do								
2. Charged to fixed assets used in production do								
3. Total (lines G-1 and 2) do								
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land do	31,889	33,095	33,558	32,349	30,051	33,971	34,782	34,558
(*b*) Equipment, buildings, etc do	12,260	14,798	15,779	15,726	16,167	16,125	16,325	16,273
(*c*) Intangible drilling and development do	5,523	5,469	5,904	5,842	6,198	5,466	5,499	6,272
(*d*) Other (specify) do	208	217	208	140	131	131	118	119
(*e*) Total (lines H-1 (*a*) through (*d*)) do	49,880	53,579	55,449	54,058	52,548	55,693	56,724	57,223
2. Inventories of crude oil, materials and supplies do	468	770	586	368	698	643	688	788
3. Total (lines H-1 (*e*) and H-2) do	50,348	54,349	56,035	54,426	53,236	56,335	57,412	58,011
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land do	20,745	22,082	23,177	23,068	21,855	23,494	24,489	24,261
(*b*) Depreciation of tangible assets do	7,143	8,056	8,872	9,299	10,028	9,940	10,531	10,575
(*c*) Amortization of intangible drilling and development costs thousands of dollars	2,701	2,702	3,084	3,137	3,449	3,773	3,787	4,126
(*d*) Other (specify) do	55	56	57	58	55	55	43	43
(*e*) Total (lines H-4 (*a*) through (*d*)) do	30,644	32,895	35,190	35,562	35,388	37,262	38,851	39,004
5. Line H-3 minus H-4 (*e*) do	19,705	21,454	20,846	18,864	17,848	19,073	18,561	19,007

CLASS 4—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4

A. Well and engineering data:	No data.							
1. Average number of wells producing during each period								
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)								
(b) Average depth (in feet)								
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels)								
3. Dry holes:								
(a) Number completed each period								
(b) Average depth (in feet)								
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period								
(b) Average depth (in feet)								
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced		2,014	2,193	2,491	3,662	3,257	5,378	5,710
2. Add, royalty oil including overriding royalties applicable (line B-1)		340	390	439	604	575	748	867
3. Total (lines B-1 and B-2)		2,354	2,583	2,930	4,266	3,832	6,126	6,577
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ... thousands of dollars		2,144	2,204	2,224	3,769	3,609	6,116	6,563
2. Subsidy of value accrued on oil shown on line B-1 ... do								16
3. Gas sales from oil properties (net company working interest) ... do		26	44	71	100	107	149	161
4. Other production income ... do		2	4	7	3	9	17	40
5. Total (lines C-1 through C-4) ... do		2,172	2,252	2,302	3,872	3,725	7,282	6,780
D. Production, development, and finding costs:	No data.							
1. (a) Production costs								
(b) Overhead applicable to production—from line D-5 (a)								
(c) Total (lines D-1 (a) and D-1 (b))								
2. (a) Development cost of productive oil wells completed during each period								
(b) Overhead applicable to development—from line D-5 (b)								
(c) Total (lines D-2 (a) and D-2 (b))								
3. (a) Expenditures during each period which relate to finding oil								
(b) Overhead applicable to exploration—from line D-5 (c)								
(c) Total (lines D-3 (a) and D-3 (b))								

OPA crude petroleum production costs survey data—Continued

CLASS 4—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
E. Production expense:								
1. Operating expense … thousands of dollars	------	637	631	654	1,034	1,102	2,053	2,243
2. Exploratory and dry hole costs written off … do	------	234	137	204	165	372	567	678
3. General and administrative expenses … do	------	221	289	293	450	449	1,151	1,244
4. Depletion of leasehold and land costs … do	------	391	407	391	491	443	459	403
5. Depreciation of tangible assets … do	------	167	176	228	420	450	752	738
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized … do	------	64	76	100	161	101	334	344
(*b*) Expenditures, if written off currently … do	------	235	392	540	892	179	851	1,355
7. Total (lines E-1 through 6 (*b*)) … do	------	1,949	2,107	2,415	3,613	3,096	6,167	7,005
F. (Do not make any entries on this line) … do	------	223	146	(113)	259	629	114	(224)
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land … do	------	6,566	6,723	6,634	6,971	7,280	9,704	10,239
(*b*) Equipment, buildings, etc … do	------	7,233	7,662	7,801	9,029	9,964	15,077	15,208
(*c*) Intangible drilling and development … do	------	6,605	6,960	7,312	8,959	8,870	12,439	13,111
(*d*) Other (specify) … do	------	26	33	3	45	68	82	192
(*e*) Total (lines H-1 (*a*) through (*d*)) … do	------	20,430	21,379	21,756	25,003	26,182	37,302	38,750
2. Inventories of crude oil, materials and supplies … do	------	108	94	113	196	264	576	539
3. Total (lines H-1 (*e*) and H-2) … do	------	20,538	21,473	21,868	25,199	26,446	37,878	39,290
4. Reserves for fixed assets								
(*a*) Depletion of leaseholds and land … do	------	488	854	1,211	1,990	2,340	3,783	4,136
(*b*) Depreciation of tangible assets … do	------	5,446	5,600	5,796	6,537	7,366	10,097	10,691
(*c*) Amortization of intangible drilling and development costs … thousands of dollars	------	6,436	6,799	6,691	7,701	7,792	9,345	10,091
(*d*) Other (specify) … do	------	------	------	------	1	2	353	396
(*e*) Total (lines H-4 (*a*) through (*d*)) … do	------	12,369	13,254	13,698	16,229	17,500	23,578	25,314
5. Line H-3 minus H-4 (*e*)	------	8,169	8,220	8,170	8,971	8,945	14,301	13,976

CLASS 4—SEGMENT 2

A. Well and engineering data:								
1. Average number of wells producing during each period								
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)								
(b) Average depth (in feet)								
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels)	No data.							
3. Dry holes:								
(a) Number completed each period								
(b) Average depth (in feet)								
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period								
(b) Average depth (in feet)								
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced		1,479	1,513	1,538	1,969	1,672	3,386	3,474
2. Add royalty oil including overriding royalties applicable (line B-1)		309	353	383	466	380	483	501
3. Total (lines B-1 and B-2)		1,788	1,866	1,922	2,435	2,072	3,869	3,975
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 ... thousands of dollars		1,652	1,631	1,408	2,011	1,891	3,885	4,000
2. Subsidy value accrued on oil shown on line B-1 ... do								2
3. Gas sales from oil properties (net company working interest) ... do		13	29	19	21	21	55	71
4. Other production income ... do							5	5
5. Total (lines C-1 through C-4) ... do		1,665	1,660	1,427	2,032	1,912	3,945	4,086
D. Production, development, and finding costs:								
1. (a) Production costs ... do								
(b) Overhead applicable to production—from line D-5 (a) ... do								
(c) Total (lines D-1 (a) and D-1 (b)) ... do								
2. (a) Development cost of productive oil wells completed during each period ... thousands of dollars	No data.							
(b) Overhead applicable to development—from line D-5 (b) ... do								
(c) Total (lines D-2 (a) and D-2 (b)) ... do								
3. (a) Expenditures during each period which relate to finding oil ... do								
(b) Overhead applicable to exploration—from line D-5 (c) ... do								
(c) Total (lines D-3 (a) and D-3 (b)) ... do								
E. Production expense:								
1. Operating expense ... do		430	398	404	496	460	1,229	1,380
2. Exploratory and dry hole costs written off ... do		190	87	174	85	200	289	399
3. General and administrative expenses ... do		189	240	250	294	309	992	1,071
4. Depletion of leasehold and land costs ... do		357	338	329	362	337	338	288
5. Depreciation of tangible assets ... do		95	74	96	163	156	398	389

OPA crude petroleum production costs survey data—Continued

CLASS 4—SEGMENT 2—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
E. Production expense—Continued								
6. Intangible drilling and development costs......thousands of dollars							174	176
(*a*) Amortization, if capitalized......do		201	227	336	399	50	50	209
(*b*) Expenditures, if written off currently......do								
7. Total (lines E-1 through 6 (*b*))......do		1,472	1,364	1,588	1,800	1,512	3,470	3,912
F. (Do not make any entries on this line)......do		192	296	(162)	232	400	474	174
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds an l land......do		5,351	5,359	5,360	5,246	5,248	7,572	8,058
(*b*) Equipment, buildings, etc......do		5,951	6,027	6,143	6,618	6,676	10,912	11,018
(*c*) Intangible drilling and development......do		6,423	6,779	6,661	7,425	7,461	10,421	10,552
(*d*) Other (specify)......do								
(*e*) Total (lines H-1 (*a*) through (*d*))......do		17,725	18,165	18,164	19,289	19,385	28,906	29,627
2. Inventories of crude oil, materials, and supplies......do		108	94	110	108	184	483	459
3. Total (lines H-1 (*e*) and H-2))......do		17,833	18,259	18,274	19,397	19,569	29,389	30,086
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land......do		415	753	1,077	1,755	2,091	3,483	3,771
(*b*) Depreciation of tangible assets......do		5,205	5,154	5,156	5,318	5,439	7,723	8,032
(*c*) Amortization of intangible drilling and development costs thousands of dollars		6,423	6,779	6,661	7,425	7,461	8,496	8,766
(*d*) Other (specify)......do							346	382
(*e*) Total (lines H-4 (*a*) through (*d*))......do		12,042	12,686	12,894	14,498	14,992	20,048	20,950
5. Line H-3 minus H-4 (*e*)......do		5,790	5,573	5,380	4,899	4,578	9,340	9,136

CLASS 4—SEGMENT 4

A. Well and engineering data:								
1. Average number of wells producing during each period	No data.							
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)								
(b) Average depth (in feet)								
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels)								
3. Dry holes:								
(a) Number completed each period								
(b) Average depth (in feet)								
4. Input and service wells drilled for that purpose during each period								
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period								
(b) Average depth (in feet)								
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced		534	681	953	1,693	1,584	1,992	2,236
2. Add, royalty oil including overriding royalties applicable (line B-1)		31	36	56	138	175	266	366
3. Total (lines B-1 and B-2)		565	717	1,009	1,831	1,760	2,258	2,602
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1 thousands of dollars		492	574	816	1,758	1,718	2,231	2,555
2. Subsidy value accrued on oil shown on line B-1 do								14
3. Gas sales from oil properties (net company working interest) do		13	15	52	79	86	94	91
4. Other production income do		2	4	7	3	9	11	35
5. Total (lines C-1 through C-4) do		507	592	875	1,840	1,813	2,336	2,695
D. Production, development, and finding costs:								
1. (a) Production costs	No data.							
(b) Overhead applicable to production—from line D-5 (a)								
(c) Total (lines D-1 (a) and D-1 (b))								
2. (a) Development cost of productive oil wells completed during each period								
(b) Overhead applicable to development—from line D-5 (b)								
(c) Total (lines D-2 (a) and D-2 (b))								
3. (a) Expenditures during each period which relate to finding oil								
(b) Overhead applicable to exploration—from line D-5 (c)								
(c) Total (lines D-3 (a) and D-3 (b))								

OPA crude petroleum production costs survey data—Continued

CLASS 4—SEGMENT 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
E. Production expense:								
1. Operating expense .... thouaands of dollars	....	207	233	251	539	642	825	863
2. Exploratory and dry hole costs written off .... do	....	44	50	34	79	172	278	279
3. General and administrative expenses .... do	....	32	49	44	156	140	160	173
4. Depletion of leasehold and land costs .... do	....	34	69	62	129	106	121	115
5 Depreciation of tangible assets .... do	....	72	102	132	256	294	354	348
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized .... do	....	64	76	100	161	101	159	168
(*b*) Expenditures, if written off currently .... do	....	24	165	204	493	129	800	1, 146
7. Total (lines E-1 through 6 (*b*)) .... do	....	476	743	826	1, 813	1, 584	2, 697	3, 093
F. (Do not make any entries on this line) .... do	....	30	(151)	49	27	228	(360)	(398)
H. Crude oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land .... do	....	1, 215	1, 363	1, 274	1, 726	2, 033	2, 131	2, 182
(*b*) Equipment, buildings, etc .... do	....	1, 282	1, 636	1, 657	2, 410	3, 288	4, 164	4, 190
(*c*) Intangible drilling and development .... do	....	182	181	656	1, 534	1, 408	2, 018	2, 559
(*d*) Other (specify) .... do	....	26	33	3	45	68	82	192
(*e*) Total (lines H-1 (*a*) through (*d*)) .... do	....	2, 705	3, 213	3, 590	5, 715	6, 797	8, 396	9, 123
2. Inventories of crude oil, materials and supplies .... do	....	....	....	3	88	80	94	80
3. Total (lines H-1 (*e*) and H-2) .... do	....	2, 705	3, 213	3, 593	5, 803	6, 877	8, 490	9, 203
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land .... do	....	73	101	134	234	248	300	365
(*b*) Depreciation of tangible assets .... do	....	241	446	640	1, 220	1, 927	2, 374	2, 659
(*c*) Amortization of intangible drilling and development costs thousands of dollars	....	13	20	30	275	331	849	1, 326
(*d*) Other (specify) .... do	....	....	....	....	1	2	7	14
(*e*) Total (lines H-4 (*a*) through (*d*)) .... do	....	327	567	804	1, 730	2, 508	3, 530	4, 364
5. Line H-3 minus H-4 (*e*) .... do	....	2, 379	2, 647	2, 790	4, 073	4, 368	4, 961	4, 839

CLASS 5—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4

A. Well and engineering data:								
1. Average number of wells producing during each period	4,669	4,718	5,142	5,362	6,008	6,377	6,694	6,902
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)	373	458	598	890	628	298	284	388
(b) Average depth (in feet) per well	3,334	3,633	2,729	2,512	3,182	3,836	3,885	4,342
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	32,036	36,969	52,553	90,296	56,655	32,966	30,612	55,215
3. Dry holes:								
(a) Number completed each period	80	118	93	66	142	136	136	148
(b) Average depth (in feet) per well	4,310	3,781	4,041	3,793	4,041	4,220	3,699	3,810
4. Input and service wells drilled for that purpose during each period	63	69	31	48	54	49	37	50
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period	89	156	101	73	128	108	116	108
(b) Average depth (in feet) per well	3,628	3,781	4,098	4,855	4,483	4,640	4,006	3,868
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	26,280	30,677	26,437	32,447	39,407	38,005	38,383	41,930
2. Add, royalty oil including overriding royalties applicable (line B-1)	4,791	5,154	4,327	4,626	5,899	5,944	5,866	6,373
3. Total (lines B-1 and B-2)	31,070	35,831	30,774	37,063	45,306	43,949	44,199	48,302
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1	No data.							
2. Subsidy value accrued on oil shown on line B-1								
3. Gas sales from oil properties (net company working interest)								
4. Other production income								
5. Total (lines C-1 through C-4)								
D. Production, development, and finding costs:								
1. (a) Production costs ... thousands of dollars	7,774	10,049	10,123	9,844	10,256	10,514	11,399	13,400
(b) Overhead applicable to production—from line D-5 (a) ... do	749	802	968	993	980	1,229	1,101	1,227
(c) Total (lines D-1 (a) and D-1 (b)) ... do	8,523	10,851	11,091	10,837	11,236	11,743	12,500	14,627
2. (a) Development cost of productive oil wells completed during each period ... thousands of dollars	11,268	15,930	14,286	15,249	15,969	10,486	9,562	18,108
(b) Overhead applicable to development—from line D-5 (b) ... do	928	1,200	1,320	1,394	1,198	890	881	1,321
(c) Total (lines D-2 (a) and D-2 (b)) ... do	12,196	17,130	15,606	16,643	17,167	11,376	10,443	19,429
3. (a) Expenditures during each period which relate to finding oil ... thousands of dollars	7,879	9,654	9,764	7,484	12,699	9,658	14,925	14,671
(b) Overhead applicable to exploration—from line D-5 (c) ... do	659	705	856	711	977	851	1,173	1,265
(c) Total (lines D-3 (a) and D-3 (b)) ... do	8,538	10,359	10,620	8,195	13,676	10,509	16,098	15,936

OPA crude petroleum production costs survey data—Continued

CLASS 5—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
E Production expense:								
1. Operating expense								
2. Exploratory and dry-hole costs written off								
3. General and administrative expenses								
4. Depletion of leasehold and land costs								
5. Depreciation of tangible assets								
6. Intangible drilling and development costs:								
(a) Amortization, if capitalized								
(b) Expenditures, if written off currently								
7. Total (lines E-1 through 6 (b))								
F. (Do not make any entries on this line)								
H. Crude-oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land								
(b) Equipment, buildings, etc	No data.							
(c) Intangible drilling and development								
(d) Other (specify)								
(e) Total (lines H-1 (a) through (d))								
2. Inventories of crude oil, materials, and supplies								
3. Total (lines H-1 (e) and H-2)								
4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land								
(b) Depreciation of tangible assets								
(c) Amortization of intangible drilling and development costs thousands of dollars								
(d) Other (specify)								
(e) Total (lines H-4 (a) through (d))								
5. Line H-3 minus H-4 (e)								

CLASS 5—SEGMENT 1

A. Well and engineering data:								
1. Average number of wells producing during each period	1,879	1,710	1,786	2,021	2,365	2,544	2,855	2,947
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)	130	137	332	651	289	127	137	161
(b) Average depth (in feet) per well	4,113	4,567	2,156	1,902	2,751	3,418	3,737	3,976
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	15,499	15,295	31,713	69,808	26,421	12,874	13,196	27,126
3. Dry holes:								
(a) Number completed each period	22	33	37	32	62	76	56	53
(b) Average depth (in feet) per well	4,756	4,967	4,176	3,745	3,576	4,202	4,012	4,225
4. Input and service wells drilled for that purpose during each period	1	------	9	35	22	8	9	3
5. Exploratory wells (included in A-2 (a) and A-3 (a) above:								
(a) Number of exploratory wells drilled each period	9	27	25	12	33	45	29	23
(b) Average depth (in feet)	6,310	4,736	5,096	7,292	4,678	4,914	4,781	5,403
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	15,562	17,873	14,379	20,750	26,086	23,813	23,490	23,778
2. Add, royalty oil including overriding royalties applicable (line B-1)	3,428	3,519	2,769	3,214	3,705	3,359	3,244	3,223
3. Total (lines B-1 and B-2)	18,991	21,392	18,148	23,964	29,791	27,172	26,734	27,001
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1	No data.							
2. Subsidy value accrued on oil shown on line B-1								
3. Gas sales from oil properties (net company working interest)								
4. Other production income								
5. Total (lines C-1 through C-4)								
D. Production, development, and finding costs:								
1. (a) Production costs ... thousands of dollars	4,692	6,065	6,616	6,147	6,146	5,650	6,238	7,543
(b) Overhead applicable to production—from line D-5 (a) ... do	396	355	486	477	489	554	448	535
(c) Total (lines D-1 (a) and D-1 (b)) ... do	5,088	6,420	7,102	6,624	6,635	6,204	6,686	8,078
2. (a) Development cost of productive oil wells completed during each period ... thousands of dollars	6,562	8,419	7,904	9,329	7,560	4,302	4,352	8,666
(b) Overhead applicable to development—from line D-5 (b) ... do	488	390	539	693	494	349	264	531
(c) Total (lines D-2 (a) and D-2 (b)) ... do	7,050	8,809	8,443	10,022	8,054	4,651	4,617	9,197
3. (a) Expenditures during each period which relate to finding oil ... do	6,152	6,831	7,158	5,414	8,897	6,085	11,239	10,082
(b) Overhead applicable to exploration—from line D-5 (c) ... do	485	397	537	457	699	552	781	799
(c) Total (lines D-3 (a) and D-3 (b)) ... do	6,637	7,228	7,696	5,871	9,596	6,637	12,020	10,881

OPA crude petroleum production costs survey data—Continued

CLASS 5—SEGMENT 1—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
E. Production expense								
1. Operating expense								
2. Exploratory and dry hole costs written off								
3. General and administrative expenses								
4. Depletion of leasehold and land costs								
5. Depreciation of tangible assets								
6. Intangible drilling and development costs:								
(*a*) Amortization, if capitalized								
(*b*) Expenditures, if written off currently								
7. Total (lines E-1 through 6 (*b*))								
F. (Do not make any entries on this line)								
H. Crude oil production assets:								
1. Fixed assets								
(*a*) Leaseholds and land	No data.							
(*b*) Equipment, buildings, etc								
(*c*) Intangible drilling and development								
(*d*) Other (specify)								
(*e*) Total (lines H-1 (*a*) through (*d*))								
2. Inventories of crude oil, materials and supplies								
3. Total (lines H-1 (*e*) and H-2))								
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land								
(*b*) Depreciation of tangible assets								
(*c*) Amortization of intangible drilling and development costs								
(*d*) Other (specify)								
(*e*) Total (lines H-4 (*a*) through (*d*))								
5. Line H-3 minus H-4 (*e*)								

CLASS 5—SEGMENT 2

Item	1936	1937	1938	1939	1941	1942	1943	1944
A. Well and engineering data:								
1. Average number of wells producing during each period	1,001	1,069	1,153	1,246	1,392	1,527	1,556	1,614
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)	93	138	128	91	215	114	76	150
(*b*) Average depth (in feet) per well	3,994	3,939	4,051	5,053	4,239	4,822	5,710	6,091
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)	10,784	13,875	16,069	14,324	26,466	17,097	15,562	26,605

3. Dry holes:								
(a) Number completed each period	20	23	22	19	52	29	31	33
(b) Average depth (in feet) per well	5,849	5,411	5,133	4,722	5,155	5,791	5,464	5,107
4. Input and service wells drilled for that purpose during each period							2	3
5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period	10	20	17	24	50	26	38	26
(b) Average depth (in feet) per well	5,781	6,119	4,592	5,842	5,236	6,546	5,609	5,036
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	6,761	7,994	7,028	8,121	9,539	10,096	11,083	14,554
2. Add, royalty oil including overriding royalties applicable (line B-1)	770	1,019	1,102	988	1,642	2,012	2,064	2,584
3. Total (lines B-1 and B-2)	7,531	9,013	8,130	9,109	11,181	12,108	13,147	17,138
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1	No data.							
2. Subsidy value accrued on oil shown on line B-1								
3. Gas sales from oil properties (net company working interest)								
4. Other production income								
5. Total (lines C-1 through C-4)								
D. Production, development, and finding costs:								
1. (a) Production costs ......thousands of dollars	1,760	2,564	2,295	2,593	2,975	3,408	3,678	4,189
(b) Overhead applicable to production, from line D-5 (a) ......do	149	248	243	264	238	262	325	313
(c) Total (lines D-1 (a) and D-1 (b)) ......do	1,910	2,812	2,538	2,858	3,213	3,670	4,003	4,503
2. (a) Development cost of productive oil wells completed during each period ......thousands of dollars	3,009	5,098	4,753	4,709	7,160	5,061	4,382	8,314
(b) Overhead applicable to development, from line D-5 (b) ......do	215	468	476	457	439	375	439	647
(c) Total (lines D-2 (a) and D-2 (b)) ......do	3,224	5,566	5,229	5,167	7,599	5,436	4,821	8,961
3. (a) Expenditures during each period which relate to finding oil ......do	1,208	1,828	1,997	1,655	3,197	3,237	3,125	3,540
(b) Overhead applicable to exploration, from line D-5 (c) ......do	90	170	226	192	192	233	277	252
(c) Total (lines D-3 (a) and D-3 (b)) ......do	1,298	1,998	2,223	1,847	3,389	3,470	3,402	3,792
E. Production expense:								
1. Operating expense	No data.							
2. Exploratory- and dry-hole costs written off								
3. General and administrative expenses								
4. Depletion of leasehold and land costs								
5. Depreciation of tangible assets								
6. Intangible drilling and development costs:								
(a) Amortization, if capitalized								
(b) Expenditures, if written off currently								
7. Total (lines E-1 through 6 (b))								
F. (Do not make any entries on this line)								

OPA crude petroleum production costs survey data—Continued

CLASS 5—SEGMENT 2—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
H. Crude-oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land								
(b) Equipment, buildings, etc								
(c) Intangible drilling and development								
(d) Other (specify)								
(e) Total (lines H-1 (a) through (d))								
2. Inventories of crude oil, materials, and supplies								
3. Total (lines H-1 (e) and H-2)								
4. Reserves for fixed assets:	No data.							
(a) Depletion of leaseholds and land								
(b) Depreciation of tangible assets								
(c) Amortization of intangible drilling and development costs								
(d) Other (specify)								
(e) Total (lines H-4 (a) through (d))								
5. Line H-3 minus H-4 (e)								

CLASS 5—SEGMENT 4

Item	1936	1937	1938	1939	1941	1942	1943	1944
A. Well and engineering data:								
1. Average number of wells producing during each period	1, 789	1, 939	2, 203	2, 095	2, 251	2, 306	2, 283	2, 341
2. Productive wells (net company working interest only):								
(a) Number completed during each period (exclusive of wells purchased)	150	183	138	148	124	57	71	77
(b) Average depth (in feet) per well	2, 248	2, 702	2, 880	3, 633	2, 352	2, 795	2, 219	1, 702
(c) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) thousands	5, 753	7, 799	4, 771	6, 163	3, 768	2, 996	1, 854	1, 484
3. Dry holes:								
(a) Number completed each period	38	62	34	15	28	31	49	62
(b) Average depth (in feet) per well	3, 241	2, 645	3, 188	2, 722	3, 003	2, 795	2, 224	2, 765
4. Input and service wells drilled for that purpose during each period	62	69	22	13	32	41	26	44

5. Exploratory wells (included in A-2 (a) and A-3 (a) above):								
(a) Number of exploratory wells drilled each period	70	109	59	37	45	37	49	59
(b) Average depth (in feet) per well	2,975	3,115	3,532	3,425	3,502	2,967	2,303	2,755
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced	3,957	4,810	4,042	3,566	3,781	4,096	3,760	3,597
2. Add, royalty oil including overriding royalties applicable (line B-1)	592	616	457	423	552	574	558	566
3. Total (lines B-1 and B-2)	4,548	5,426	4,499	3,989	4,333	4,670	4,318	4,163
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1	No data.							
2. Subsidy value accrued on oil shown on line B-1								
3. Gas sales from oil properties (net company working interest)								
4. Other production income								
5. Total (lines C-1 through C-4)								
D. Production, development, and finding costs:								
1. (a) Production costs ......thousands of dollars	1,321	1,430	1,212	1,103	1,135	1,456	1,483	1,667
(b) Overhead applicable to production—from line D-5 (a) ......do	204	199	238	251	253	412	327	379
(c) Total (lines D-1 (a) and D-1 (b)) ......do	1,525	1,619	1,450	1,355	1,388	1,868	1,810	2,046
2. (a) Development cost of productive oil wells completed during each period ......thousands of dollars	1,697	2,413	1,628	1,210	1,249	1,123	828	1,128
(b) Overhead applicable to development—from line D-5 (b) ......do	225	342	305	243	264	166	178	142
(c) Total (lines D-2 (a) and D-2 (b)) ......do	1,922	2,755	1,933	1,454	1,513	1,289	1,005	1,271
3. (a) Expenditures during each period which relate to finding oil ......do	519	995	609	415	604	335	561	1,049
(b) Overhead applicable to exploration—from line D-5 (c) ......do	84	138	92	61	86	67	116	214
(c) Total (lines D-3 (a) and D-3 (b)) ......do	603	1,133	701	476	690	402	677	1,263
E. Production expense:								
1. Operating expense	No data.							
2. Exploratory and dry hole costs written off								
3. General and administrative expenses								
4. Depletion of leasehold and land costs								
5. Depreciation of tangible assets								
6. Intangible drilling and development costs:								
(a) Amortization, if capatalized								
(b) Expenditures, if written off currently								
7. Total (lines E-1 through 6 (b))								
F. (Do not make any entries on this line)								

OPA crude petroleum production costs survey data—Continued

CLASS 5—SEGMENT 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
H. Crude-oil production assets:								
1. Fixed assets:								
(*a*) Leaseholds and land	No data.							
(*b*) Equipment, buildings, etc								
(*c*) Intangible drilling and development								
(*d*) Other (specify)								
(*e*) Total (lines H-1 (*a*) through (*d*))								
2. Inventories of crude oil, materials, and supplies								
3. Total (lines H-1 (*e*) and H-2)								
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land								
(*b*) Depreciation of tangible assets								
(*c*) Amortization of intangible drilling and development costs								
(*d*) Other (specify)								
(*e*) Total (lines R-4 (*a*) through (*d*))								
5. Line H-3 minus H-4 (*e*)								

CLASS 6—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4

Item	1936	1937	1938	1939	1941	1942	1943	1944
A. Well and engineering data:								
1. Average number of wells producing during each period			27	45	107	160	199	244
2. Productive wells (net company working interest only):								
(*a*) Number completed during each period (exclusive of wells purchased)			12	11	51	40	33	45
(*b*) Average depth (in feet) per well			1,985	2,433	4,663	4,106	4,516	4,460
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)			210	1,179	5,893	2,731	4,579	7,107
3. Dry holes:								
(*a*) Number completed each period			1	3	15	13	25	48
(*b*) Average depth (in feet) per well			1,985	4,894	4,077	3,367	3,390	3,046
4. Input and service wells drilled for that purpose during each period								1
5. Exploratory wells (included in A-2 (*a*) and A-3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period				5	15	3	13	16
(*b*) Average depth (in feet) per well				5,140	4,415	3,300	4,179	3,561

B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced			66	146	1,366	1,028	1,428	2,136
2. Add, royalty oil including overriding royalties applicable (line B-1)			16	46	137	127	183	397
3. Total (lines B-1 and B-2)			82	192	1,503	1,209	1,611	2,533
C. Value of oil and other production income:								
1. Sales value of oil shown in line B-1	No data.							
3. Subsidy value accrued on oil shown on line B-1								
3. Gas sales from oil properties (net company working interest)								
4. Other production income								
5. Total, (lines C-1 through C-4)								
D. Production, development, and finding costs:								
1. (a) Production costs, thousands of dollars			25	56	220	263	399	501
(b) Overhead applicable to production, from line D-5 (a), do			7	12	40	72	122	117
(c) Total (lines D-1 (a) and D-1 (b)), do			32	68	260	335	521	618
2. (a) Development cost of productive oil wells completed during each period, thousands of dollars			100	393	1,692	1,178	1,325	2,212
(b) Overhead applicable to development, from line D-5 (b), do				13	212	198	204	287
(c) Total (lines D-2 (a) and D-2 (b)), do			100	406	1,904	1,376	1,529	2,499
3. (a) Expenditures during each period which relate to finding oil, do				45	419	144	388	811
(b) Overhead applicable to exploration, from line D-5 (c), do					63	15	68	127
(c) Total (lines D-3 (a) and D-3 (b)), do				45	482	159	456	938
E. Production expense:								
1. Operating expense	No data.							
2. Exploratory and dry-hole costs written off								
3. General and administrative expenses								
4. Depletion of leasehold and land costs								
5. Depreciation of tangible assets								
6. Intangible drilling and development costs:								
(a) Amortization, if capitalized								
(b) Expenditures, if written off currently								
7. Total (lines E-1 through 6 (b))								
F. (Do not make any entries on this line.)								
H. Crude oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land								
(b) Equipment, buildings, etc								
(c) Intangible drilling and development								
(d) Other (specify)								
(e) Total (lines H-1 (a) through (d))								

OPA crude petroleum production costs survey data—Continued

CLASS 6—COMBINED TOTALS OF SEGMENTS 1, 2, AND 4—Continued

Item	Year ended Dec. 31 or—							
	1936	1937	1938	1939	1941	1942	1943	1944
H. Crude oil production assets—Continued	No data.							
2. Inventories of crude oil, materials, and supplies								
3. Total (lines H-1 (*e*) and H-2)								
4. Reserves for fixed assets:								
(*a*) Depletion of leaseholds and land								
(*b*) Depreciation of tangible assets								
(*c*) Amortization of intangible drilling and development costs								
(*d*) Other (specify)								
(*e*) Total (lines H-4 (*a*) through (*d*))								
5. Line H-3 minus H-4 (*e*)								

CLASS 6—SEGMENT 4

Item	1936	1937	1938	1939	1941	1942	1943	1944
A. Well and engineering data:								
1. Average number of wells producing during each period			27	45	107	160	199	244
2. Productive wells (net company working interest only):								
(*a*) Number of completed during each period (exclusive of wells purchased)			12	11	51	40	33	45
(*b*) Average depth (in feet) per well			1, 985	2, 433	4, 633	4, 106	4, 516	4, 460
(*c*) Estimated oil reserves (net company working interest) of productive wells completed each period (in barrels) (thousands)			210	1, 179	5, 893	2, 731	4, 579	7, 107
3. Dry holes:								
(*a*) Number of completed each period			1	3	15	13	25	48
(*b*) Average depth (in feet) per well			1, 985	4, 894	4, 077	3, 367	3, 390	3, 046
4. Input and service wells drilled for that purpose during each period								1
5. Exploratory wells (included in A-2 (*a*) and A-3 (*a*) above):								
(*a*) Number of exploratory wells drilled each period				5	15	3	13	16
(*b*) Average depth (in feet) per well				5, 140	4, 415	3, 300	4, 179	3, 561
B. Production in barrels (thousands):								
1. Net company working interest domestic crude oil produced			66	146	1, 366	1, 082	1, 428	2, 136
2. Add, royalty oil including overriding royalties applicable (line B-1)			16	46	137	127	183	397
3. Total (lines B-1 and B-2)			82	192	1, 503	1, 209	1, 611	2, 533
C. Value of oil and other production income:								
1. Sales value of oil shown on line B-1								
2. Subsidy value accrued on oil shown on line B-1								

3. Gas sales from oil properties (net company working interest)								
4. Other production income								
5. Total (lines C-1 through C-4)								
D. Production, development, and finding costs:								
1. (a) Production costs ... thousands of dollars			25	56	220	263	399	501
(b) Overhead applicable to production—from line D-5 (a) ... do			7	12	40	72	122	117
(c) Total (lines D-1 (a) and D-1 (b)) ... do			32	68	260	335	521	618
2. (a) Development cost of productive oil wells completed during each period ... thousands of dollars			100	393	1,692	1,178	1,325	2,212
(b) Overhead applicable to development—from line D-5 (b) ... do				13	212	198	204	287
(c) Total (lines D-2 (a) and D-2 (b)) ... do			100	406	1,904	1,376	1,529	2,499
3. (a) Expenditures during each period which relate to finding oil ... thousands of dollars				45	419	144	388	811
(b) Overhead applicable to exploration—from line D-5 (c) ... do					63	15	68	127
(c) Total (lines D-3 (a) and D-3 (b)) ... do				45	482	159	456	938
E. Production expense:	No data.							
1. Operating expense								
2. Exploratory and dry hole costs written off								
3. General and administrative expenses								
4. Depletion of leasehold and land costs								
5. Depreciation of tangible assets								
6. In tangible drilling and development costs:								
(a) Amortization, if capitalized								
(b) Expenditures, if written off currently								
7. Total (lines E-1 through 6 (b))								
F. (Do not make any entries on this line)								
H. Crude oil production assets:								
1. Fixed assets:								
(a) Leaseholds and land								
(b) Equipment, buildings, etc								
(c) In tangile drilling and development								
(d) Other (specify)								
(e) Total (lines H-1 (a) through (d))								
2. Inventories of crude oil, materials and supplies								
3. Total (lines H-1 (e) and H-2))								
4. Reserves for fixed assets:								
(a) Depletion of leaseholds and land								
(b) Depreciation of tangible assets								
(c) Amortization of intangible drilling and development costs								
(d) Other (specify)								
(e) Total (lines H-4 (a) through (d)								
5. Lines H-3 minus H-4 (e)								

Senator Moore. You may proceed, Mr. Becker.

Mr. Becker. I will take just a couple more minutes, then, in reading the statement.

CRUDE REPLACEMENT COSTS EXCEED GROSS INCOME FROM CRUDE

The following replacement cost calculations are based upon data collected by the Office of Price Administration in the crude oil industry cost survey which was completed on June 30, 1945. These data were received by the National Crude Oil Industry Advisory Committee on November 28, 1945. This study covers a larger group than was covered by the committee. These data indicate:

1. The average cost of finding, developing and producing crude petroleum rose from 69 cents per barrel in the years 1936–39 to $1.60 per barrel in 1944.
2. During the base period, 1936–39, the average excess of crude oil income over replacement cost was 47 cents per barrel but in 1944 replacement cost was 36 cents greater than gross income.
3. A national average price of $2 for crude petroleum, exclusive of subsidy, would have been necessary in 1944 in order to have maintained the base period margin of 46 cents per barrel and, on the basis of replacement cost for that year, to have provided the industry with the funds required to replace the volume of oil produced with an equal volume of newly discovered and developed reserves.

SUMMARY OF COST SURVEY DATA

This study is based upon data reported by 184 producers of crude oil, which in 1944 produced 56 percent of total domestic net production. The data considered understate crude oil costs and overstate bookkeeping profits, particularly with respect to 1944, for the reasons set forth below:

1. The output of producers included in the cost study was 37 percent greater in 1944 than in 1941, whereas the output of producers not included in the study increased only 6 percent during the same period.
2. The data considered are heavily weighted by the integrated companies whose costs were smaller and profits larger than those of either the large or small independent producers whose returns are considered.
3. The data considered do not reflect the results of the thousands of small producers not considered in this study. As the average production and average production per well of such producers was much smaller than the averages of those considered, their costs undoubtedly were much larger and their profits, if any, were undoubtedly smaller than those of the producers considered in this study.

METHOD OF COMPUTING REPLACEMENT COST

The computation of current replacement cost must be based on consideration of total cash expenditures or costs incurred, rather than bookkeeping charges.

The statistical procedure used in the determination of replacement cost per barrel involves the division of all expenditures or costs into

three parts, corresponding to the three distinct activities of the oil producing industry, namely—

1. Operation of productive wells.
2. Drilling and equipping productive wells which is classified as development.
3. Exploring for oil.

The cost of each of these activities, including an appropriate part of general overhead, must be dealt with separately, as operating costs relate exclusively to volume of production, and development relates exclusively to the volume of reserves recoverable from such development or productive wells, while exploratory costs relate exclusively to the volume of oil found or to be found as a result of exploration.

REPLACEMENT COSTS

The separate details on costs, income and margin are presented in table 2.

TABLE 2.—*Analysis of total cost of finding, developing, and producing crude petroleum per barrel on replacement basis, gross income per barrel and margin of gross income over replacement cost*

Year	Operating cost	Developing cost	Finding cost	Total replacement cost	Total gross income	Margin of gross income over replacement cost
1936	$0.266	$0.218	$0.182	$0.666	$1.129	$0.463
1937	.279	.220	.147	.646	1.218	.572
1938	.317	.205	.166	.688	1.183	.495
1939	.297	.190	.359	.846	1.070	.224
Average, 1936–39	.290	.209	.186	.685	1.151	.466
1941	.292	.205	.270	.767	1.170	.403
1942	.314	.225	.416	.955	1.214	.259
1943	.308	.299	.447	1.054	1.228	.174
1944	.311	.381	.907	1.599	1.244	[1] .355

[1] Deficit.

The foregoing table understates replacement cost for the industry as a whole because the data considered in this study are mainly those of the largest producers whose costs are smaller than the average for the industry and who had the bulk of the increase in production from 1941 to 1944.

The replacement cost data were developed through the consistent application of the same statistical method to the figures for each of the 8 years considered.

OPERATING EXPENDITURES

Operating expenditures or lifting costs for the group surveyed show only a small increase per barrel of production in 1944 over the 1936–39 period; however, there is a substantial difference in operating costs of the large companies as compared with small companies. In the 1936–39 period, integrated company operating costs were 27 cents per barrel. In the same period, small independent companies' comparable costs were 41 cents per barrel or 14 cents per barrel higher than the large company costs.

In the year 1944 small independent companies' operating costs per barrel averaged 28 cents higher than the operating costs of large integrated companies.

TABLE 3.—*Operating (lifting) costs per barrel of crude petroleum produced, combined group in survey and by separate segments in the group*

[Per net barrel produced]

Year	Combined group operating costs			Operating costs by separate segments		
	Operating expenditures	Production (net barrels)	Cost	Integrated companies	Large independents	Small independents
1936	$119,282	448,835	$0.266	$0.248	$0.369	$0.406
1937	146,694	526,248	.279	.259	.392	.383
1938	156,323	493,578	.317	.300	.387	.432
1939	154,762	520,763	.297	.277	.390	.422
Average, 1936–39	144,266	497,356	.290	.271	.386	.411
1941	172,686	592,274	.292	.276	.346	.447
1942	188,891	601,330	.314	.300	.350	.518
1943	212,458	690,146	.308	.290	.377	.559
1944	247,896	798,355	.311	.295	.366	.577

Total operating cost does not include provision to cover undermaintenance of properties caused by shortages of manpower and materials during the past few years although the cost of making good such undermaintenance actually relates to oil produced during the period when the undermaintenance accrued.

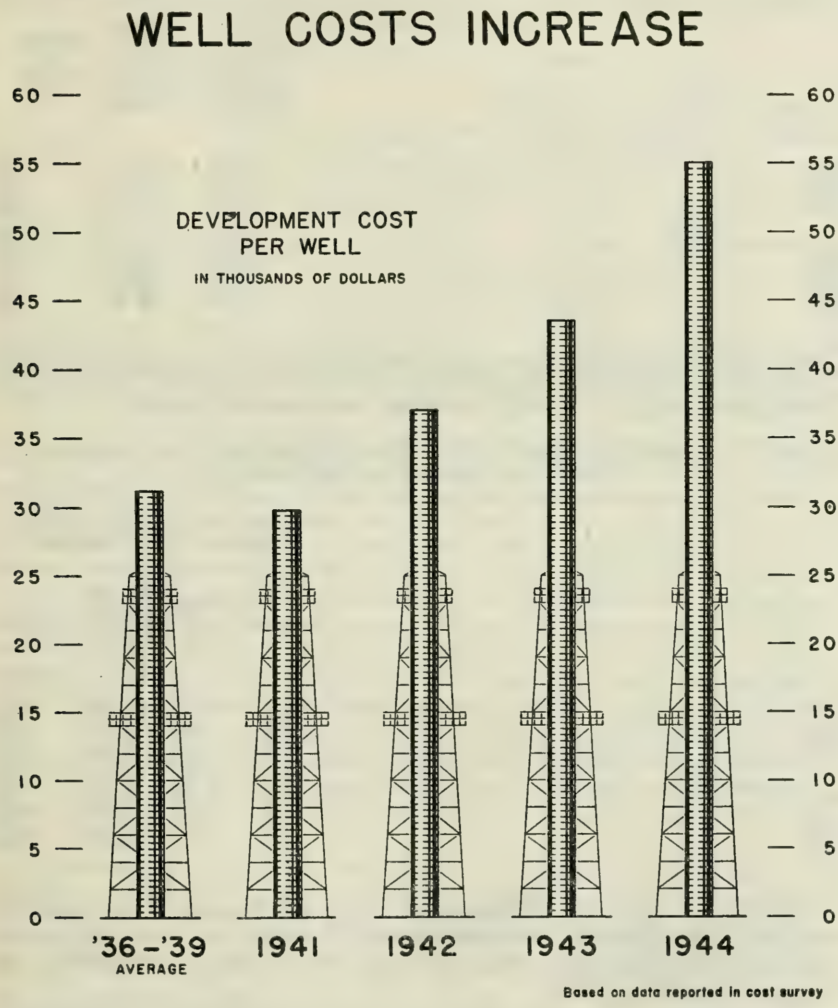
Many fields recently were producing in excess of maximum efficient rates, causing irrecoverable loss of part of the reserves which otherwise could be profitably produced.

The increase in output per well resulted in a cost per barrel which obscures the much sharper increase in cost as shown by cost per well.

The reduced operating cost per barrel caused by abnormal output does not increase materially, if at all, the value ultimately to be realized from production of proved reserves, as abnormal production merely accelerates the normal increase in future operating costs, especially in causing installation of pumping equipment sooner than otherwise would be necessary. The abnormal production necessary to supply oil and products needed for the war effort has in effect "skimmed the cream" from the value realizable from proved reserves. This process has not been of benefit to the industry as it still must pay the penalty for abnormal production in the form of increased future operating cost.

The group surveyed covers a little over one-fourth of the producing oil wells in the country; however, the production from those wells in 1944 was 56 percent of the Nation's total. A comparison between large and small volume operations shows that integrated companies' production is over three times the volume per well of wells operated by the small independents covered in the survey. The production and wells not covered in the survey average very closely to the same results per well and per day as was experienced by the small independent companies.

The upward trend in operating cost per well greatly exceeds the rise in the volume of production per well. Average annual operating cost per producing oil well is a little more than double the comparable cost of operating small company wells; however, production from the larger company wells was more than three times the volume produced from the smaller companies' wells. Hence, larger volume production results in lower unit cost of operation.



DEVELOPMENT COSTS

The above chart, entitled "Well Costs Increase," illustrates that one of the principal factors of increased costs in petroleum production is the rise in the cost of development. These costs calculated on a basis of productive wells drilled rose from about $30,000 per

productive well drilled in the 1936–39 period to approximately $55,000 per productive well in 1944. Translated into costs per foot drilled the average rose from $8.40 per foot in 1936–39 to $12.69 per foot drilled in 1944.

TABLE 4.—*Development expenditures per barrel of crude petroleum reserves developed*

Year	Development expenditures reported in survey (thousands of dollars)	Reserves developed reported in survey (thousands of barrels)	Development cost per barrel
1936	208, 926	960, 573	$0. 218
1937	282, 849	1, 287, 358	. 220
1938	235, 738	1, 148, 674	. 205
1939	196, 330	1, 032, 170	. 190
Average, 1936–39	230, 961	1, 107, 193	. 209
1941	227, 101	1, 107, 619	. 205
1942	156, 438	695, 064	. 225
1943	165, 329	552, 816	. 299
1944	285, 693	750, 298	. 381

NOTE.—The estimated oil reserves used in determining development cost on a replacement basis are the same as the estimated reserves used in determining items representing a large portion of bookkeeping cost; i. e., depletion, amortization of intangible drilling cost charged to capital account, and depreciation of tangible equipment where computed on the customary "unit of production" method.

TABLE 5.—*Average development cost of productive oil wells completed and per foot drilled as reported by group in survey*

Year	Productive oil wells completed		Average development cost	
	Number	Average depth in feet	Per net productive oil well completed	Per foot drilled
1936	6, 705	3, 532	$31, 159	$8. 82
1937	8, 912	3, 734	31, 737	8. 50
1938	7, 253	3, 765	32, 502	8. 63
1939	7, 051	3, 652	27, 844	7. 62
Average, 1936–39	7, 430	3, 671	30, 810	8. 40
1941	7, 641	3, 898	29, 721	7. 63
1942	4, 222	4, 121	37, 053	9. 02
1943	3, 828	3, 932	43, 189	10. 99
1944	5, 228	4, 307	54, 646	12. 69

Details by years of development costs are presented in tables 9 and 10. Development costs expressed in costs per barrel of crude reserves developed rose from 21 cents per barrel in 1936–39 to 38 cents per barrel in 1944.

The increase in average cost per well was caused partly by the increase in wages and equipment costs and partly by the increasingly greater depth of producing horizons of fields under development. The added cost of deeper drilling is much greater than in proportion to increase in depth as shown by increase in average cost per foot. Increased depth is not offset by increased recovery per acre. The most prolific oil-bearing formations known to geologists are at depths now considered as relatively shallow. Many fields recently developed have

such a small recovery per acre that their development would have been regarded as a marginal operation only a few years ago. Such fields have been and are being developed only because of the failure to discover more prolific areas.

The actual increase in development cost per barrel is obscured to some extent by the 40-acre spacing requirement.

TABLE 6.—*Approximate finding cost per barrel of crude petroleum discovered—on replacement basis*

Year	Finding costs incurred by group surveyed (thousands of dollars)	Estimated new reserves discovered by group surveyed (thousands of barrels)	Finding cost per barrel
1936	121,169	664,921	$0.182
1937	148,714	1,011,309	.147
1938	142,800	860,733	.166
1939	121,791	337,804	.359
Average, 1936–39	133,619	718,692	.186
1941	144,856	537,097	.270
1942	151,935	364,881	.416
1943	191,961	429,838	.447
1944	285,254	314,488	.907

Most of the finding costs incurred, as shown in table 6, consist of the cost of dry holes completed, unsuccessful geophysical surveys, and other definitely realized losses from which little or no future benefit could possibly result. Some future discoveries may result from a relatively small part of the amounts shown, which represent the cost of nonproductive properties purchased, cost of geophysical and geological work which led to the purchase of such properties, and rentals and other costs incident to ownership of nonproductive properties. In the past, there has been a normal "lag," averaging about 3 years, between expenditures relating to acquisition of nonproductive properties and discoveries that may result, but this "lag" has probably been materially reduced by the recent expansion in exploratory drilling. Some of the discoveries made in 1943 and 1944 resulted from exploratory expenditures made a few years earlier, whereas some of the expenditures in those years may result in discoveries a few years later. Consequently, there is a normal overlap of discoveries from year to year.

It is assumed that this overlap will "average out" and that the finding costs incurred each year will result in discoveries equal to the volume of oil actually discovered in the same years, as estimated by the Petroleum Administration for War. This assumption seems not only reasonable but also conservative when considered in relation to the definitely downward trend in volume of discoveries, and the increasing difficulty of finding oil.

In order to simplify compilation of replacement cost data, the cost of productive exploratory wells completed is included in development cost and not in finding costs incurred. This is a minor inconsistency which has the effect of understating total replacement cost per barrel, inasmuch as in each recent year the total volume of reserves developed was substantially greater than the volume of discoveries.

Table 6 shows that the very sharp increases in finding cost per barrel results from the upward trend in exploratory expenditures combined with the downward trend in discoveries.

The calculation of discoveries, as estimated in this study of finding costs, is set forth in table 7:

TABLE 7.—*Estimated new discoveries of producers in survey*

Year	Total new discoveries estimated by PAW	Less average royalty of 14.323 percent	Net new discoveries of entire industry	Net production of producers in study as percent of total	Discoveries of producers in study
	1,000 barrels	*1,000 barrels*	*1,000 barrels*	*Percent*	*1,000 barrels*
1936	1,627,000	233,035	1,393,965	47.7	664,921
1937	2,454,000	351,486	2,102,514	48.1	1,011,309
1938	2,115,000	302,931	1,812,069	47.5	860,733
1939	818,000	117,162	700,838	48.2	337,804
Average	1,753,500	251,154	1,502,346	47.9	719,624
1941	1,269,000	181,759	1,087,241	49.4	537,097
1942	840,000	120,313	719,687	50.7	364,881
1943	936,000	134,063	801,937	53.6	429,838
1944	659,000	94,389	564,611	55.7	314,488

Prevailing prices do seriously discourage the exploration for and development of new reserves, even though oil may continue to be produced from existing wells because there is no other alternative except shutting-in production, which is seldom possible because of drainage by others and the financial needs of most producers. The advisory committee is convinced from the data developed by this survey and by its own experience that the cost of finding and developing oil has increased greatly in recent years. Operators may continue to produce oil if no relief is granted in price ceilings, but they would be foolish to carry on an active program of exploration and development when there is little or no prospect for a return commensurate with the risks involved.

The maintenance of inadequate and uneconomic crude-oil price ceilings virtually eliminated any expectation of profit from risking funds in replacement operations, which undoubtedly is one of the most important reasons for the decrease in the proportion of gross income utilized for replacement operations during 1941 to 1944, inclusive, as shown in table 2. Furthermore, inadequate prices failed to provide many producers, especially small independents, with sufficient income to maintain their normal volume of exploratory operations. The small independent producers included in this study who operated throughout the period from 1936 to 1944, inclusive, reported an average of 356 exploratory wells completed each year during the base period but their exploratory drilling declined to only 107 completions in 1944. During that year their total expenditures exceeded gross income, which probably explains the drastic curtailment in their exploratory drilling operations. Exploratory drilling operations of the entire industry increased but the curtailment of exploratory operations of the small independents was extremely unfortunate as they have consistently been peculiarly effective in discovering new oil fields. Since the war ended, the number of well completions has decreased, weekly completions being fewer than during the war and considerably less

than in prewar years. This decrease in drilling activity apparently is attributable largely to the discouragement and lack of confidence throughout the industry, caused by continuance of inadequate crude oil prices. The advisory committee is convinced that the maintenance of inadequate crude oil price ceilings by the Office of Price Administration is a major cause of the reduction in proved reserves and productive capacity that occurred during the period of governmental price control and that further adverse changes in the industry's situation are unavoidable unless price control is terminated or unless the policy of the OPA with respect to crude oil is changed substantially.

Certain changes in conditions in recent months and further changes in prospect for 1946 result primarily from termination of the war.

The principal effect of termination of the war is the substantial curtailment of crude-oil output that has already occurred and the further large reduction that is in prospect over the next year or two. The increased gross income from recent abnormal production was insufficient to provide funds required for exploratory operations on a scale large enough to replace oil produced with an equal volume of newly discovered reserves and newly developed reserves.

The decrease in income from curtailed output cannot possibly be offset by a proportionate reduction in crude-oil costs and expenses. Many classes of expense must remain relatively constant in total amount at the 1945 level (or may go higher) which, with reduced volume, will naturally increase cost per barrel and reduce profit although some elements of cost will remain relatively constant in terms of cost per barrel and thereby will decrease in total amount in proportion to reduction in output.

The industry must also cope with cost increases caused by:

1. Normal increase in per barrel cost of operating productive wells resulting primarily from natural decline but now aggravated by recent abnormal production, which "skimmed the cream" from the value realizable from proved reserves.

2. Normal increase in costs of all kinds attributable to conditions causing long-term trend toward higher crude-oil costs.

3. Increases in costs affecting all industries, with basic hourly wages now permanently established at a substantially higher level than that which obtained prior to termination of the war or even during the war.

The favorable factors which will tend toward cost reduction are:

1. Greater efficiency and effectiveness of producing organizations resulting from return of employees (especially scientific and technical personnel) from military service.

2. Availability of materials and supplies of prewar quality or better.

While these favorable factors are extremely important, they are imponderables which are not now susceptible of statistical evaluation.

There has been no improvement in oil-finding technique that would indicate the possibility of decline in replacement cost in 1946; in fact it now seems certain that costs will be higher in 1946 than in 1944.

Conditions are changing almost daily that add additional burdens upon the oil operator. Presently we are faced with increased costs resulting from increase in steel prices. Just how much this will add

to the cost per barrel of crude oil is not presently known but it definitely will add to the cost per barrel.

The independent oil producer is of the firm conviction that with sufficient production capacity available to meet present demands that there is no reason for not immediately removing the ceiling price on crude petroleum. He is also of the opinion that if this is not done, immediate steps should be taken to lift the ceiling price of crude oil at least 35 cents per barrel which should help restore confidence throughout the industry that its peculiar problems are understood by those who determine prices, with the result that exploratory activity and discoveries will be greatly stimulated. If this proves to be correct, the resulting decrease in cost combined with the effect of other factors tending to reduce cost may obviate the necessity for further price increase, but this of course would have to be determined from time to time as the situation develops. Any increase in crude oil ceiling prices should not be nullified by failure to provide for appropriate compensatory increases of refined products.

Mr. Fraser. Do you see any complications resulting from an immediate abolition of OPA controls in the entire oil industry?

Mr. Becker. It probably should be done in an orderly fashion. I think that there are possibly some who are presently receiving subsidy payments that have built their program for the next few weeks upon the receipt of that.

However, if we were notified today, for instance, that they were to be decontrolled within a certain specified time, we could plan accordingly, and I think that is the way we would like to see it.

Mr. Fraser. Then everything would go off smoothly and the adjustments made, you say, without any undue hardship on anybody?

Mr. Becker. That is right.

Mr. Reppert. Senator Moore, you were not here this morning when I made the statement for the Office of Price Administration that we are quite anxious to put into effect a price suspension program for this industry. Mr. Bowles has already indicated that. Mr. Bowles' statement said that within 6 months we should be able to place into effect the price suspension program, possibly prior to June 30. That was the statement he made last week in a letter to Congressman Patman.

Senator Moore. You said within 6 months, and possibly prior to June 30?

Mr. Reppert. That is right.

Senator Moore. That is the time the Price Control Act expires?

Mr. Reppert. That is right.

Mr. Becker. I think the oil industry would like to know as soon as possible an exact date, so we could plan accordingly.

Senator Moore. Would you recommend an early date or a deferred date?

Mr. Becker. I would recommend a rather early date, the earlier the better.

Senator Moore. You would be willing to let it continue to June 30, though?

Mr. Becker. What is that?

Senator Moore. You would be willing to let it continue to June 30?

Mr. Becker. Yes, if we knew now or within a reasonably short time that it would expire on June 30.

Senator MOORE. We will not know that until Congress acts.

Mr. BECKER. No, I mean on the decontrol.

I would like to call your attention to a booklet that has been laid before you and just released by the Independent Petroleum Association. It tells a story that I have been talking about. I do not think it is necessary to put that in the record; I just wanted to call it to your attention. (Booklet entitled "These Checks Have Always Been Good.")

Mr. BROWN. Senator Moore, may I say a word on that subject of decontrol?

Senator MOORE. Yes, we will be glad to hear from you, Mr. Brown.

Mr. BROWN. On February 14, 1946, this statement was made:

> It is the policy of the Government in order so far as possible to prevent price increases, that there be prompt and firm enforcement, during the present emergency, of Government controls over scarce materials and facilities.

This statement was made in Executive Order No. 9697, signed by the President.

On January 1, in the Fifth Report of the Director of War Mobilization and Reconversion, we find this statement:

> Price ceilings have been removed from several thousand items, and the elimination of controls is going ahead on items relatively insignificant in the cost of living. Those already dropped represent only a small percentage of the total. The continuation of heavy general inflationary pressures has made the retention of most price ceilings necessary to the maintenance of a stable economy. They will be lifted as quickly as supply approaches balance with demand.

Then again, Mr. Bowles, I believe it was, made this statement:

> Price control should and must be removed as rapidly as supply conditions permit. Barring continued labor-management difficulties, the production estimates for 1946 indicate that in industry after industry during the next 12 months, we will find supply and demand coming into balance. As that occurs, I assure you that your Government will move promptly to eliminate the last vestige of price restrictions in those industries.

Senator MOORE. When was that statement made?

Mr. BROWN. That statement was made by Chester Bowles on December 6, 1945.

Now, before the Banking and Currency Committee at their hearing a year ago, Mr. Bowles made in substance the same statement:

> Supply and demand have been in balance since VJ-day.

The thing that concerns the industry is the implementing of that sort of statement. The statement was repeated again the other day by Mr. Bowles, and it was repeated by Mr. Snyder, and it was repeated by Marriner Eccles.

We work with Mr. Reppert. Now what I would like to see is some way of making that pronounced policy effective in Mr. Reppert's office. He is talking "suspension" of ceilings, which is an entirely different animal from taking the controls off.

Senator MOORE. Yes, I know that.

Mr. BROWN. And suspension of ceilings would not do the job.

Senator MOORE. Under that order, you could reinstate them?

Mr. REPPERT. Yes.

Mr. BROWN. That just leaves them subject to their control.

Senator MOORE. Yes.

Mr. BROWN. That is all. Thank you.

Mr. REPPERT. Senator Moore, I do not know whether you desire to carry on further. There is a basic disagreement in the reports they have submitted to us and the report they provided today in the method of computing costs. I refer to the replacement cost factor. If you desire, Mr. Noble, our accounting statistician, could comment on that. Whether you feel it is necessary or not, I do not know.

Senator MOORE. How long would that take?

Mr. REPPERT. It is a matter of 5 minutes or so.

Mr. FELL. Senator Moore, we have presented all of our testimony, except my summary. I was wondering whether Mr. Reppert might prefer to wait until the closing of the testimony after my summary is presented; whether you would rather present your testimony afterwards, Mr. Reppert.

Mr. REPPERT. That is fine. I merely thought they were getting ready to adjourn.

Senator MOORE. All right, Mr. Fell.

Mr. FELL. Senator Moore, before presenting my summary, Senator O'Mahoney asked that we furnish some factual information with reference to the cooperatives, the farm cooperatives. We have a report here of the tax policy and advisory committee on cooperatives in the oil industry, to the sixteenth annual meeting of the Independent Petroleum Association of America, on October 17, 1945, which I would like to present in compliance with Senator O'Mahoney's request for some information on that subject.

Senator MOORE. Very well. That will be admitted.

(The report referred to is as follows:)

REPORT OF THE TAX POLICY AND ADVISORY COMMITTEE ON COOPERATIVES IN THE OIL INDUSTRY TO THE SIXTEENTH ANNUAL MEETING OF THE INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, TULSA, OKLA., OCTOBER 17, 1945

At the annual meeting of the board of directors of the Independent Petroleum Association of America in Dallas, Tex., on October 9, 10, 11, 1944, the following resolution was adopted:

"That the subject of cooperatives be referred to the tax policy and advisory committee to develop factual data, to determine the equality of the law itself, the procedure and particularly the effect it has on our oil industry and report to the membership."

Your committee construed this resolution in the light of the questions raised on the floor of that meeting and classified them as coming under three classifications:

1. Whether or not the cooperatives' profits were subject to income taxes.
2. The amount of public funds used in financing cooperatives.
3. The rate of interest required to be paid on loans received by the cooperatives by Government agencies.

Your committee has complied with this charge and has made extensive study and investigation of all of the material that was available to it. It found that there was a large volume of material published on the subject, the trend of which was adverse to the methods used by cooperatives. Your committee has found a great deal of material pro and con on the subject but it was believed that its functions were solely to find and furnish factual data from official sources. Therefore, this report is limited to the presentation of such facts, and consists largely of quotations from publications issued by governmental agencies or the cooperatives' officials.

Cooperative associations are exempt from the payment of income tax, the stamp tax on capital stock or bonds or other certificates of indebtedness, the excise tax on capital stock, and the excess profits tax, if they meet the following requirements: [1]

[1] Application of the Federal Income Tax Statutes to Farmers Cooperatives, Cooperative Research and Service Division, Miscellaneous Report No. 63, p. 20.

1. The association must be organized and operated by farmers on a true cooperative basis.
2. Substantially all of the capital stock with voting power shall be owned by producer-patrons.
3. The association shall not do more than half of its business (in value) with nonmembers.
4. An association must deal with nonmembers on the same basis as members.
5. Purchasing associations shall not do more than 15 percent of their business (in value) for persons who are neither members nor producers.
6. Dividends on capital stock shall be limited to 8 percent per year, or the legal rate in the State, whichever is higher.
7. The association may have such reserves as the State law requires, or reasonable reserves for any necessary purpose.
8. Patronage and equity records must be maintained and must be permanently preserved.
9. Substantially all voting rights must be held by actual producers who currently patronize the association.

Cooperatives are not automatically exempt under these tax laws. They must apply for and receive exempt status.

Associations which do not meet the above requirements and are not exempt may deduct patronage dividends in determining taxable income. We quote from Legal Phases of Cooperative Association, by L. S. Hulbert, Farm Credit Administration, page 263:

"If an association is not exempt, it has long been the practice of the Bureau to allow such an organization in computing its income taxes to deduct the amount of the patronage dividends paid by it to its members or patrons. If, however, such an association is paying patronage dividends only to its members, it may not deduct amounts which it has made on business done with nonmembers, even though it distributes such profits in the guise of patronage dividends to its members. In addition, dividends which it pays on its capital may not be deducted.

"The failure to distinguish between the right to exemption and the right of a nonexempt association to deduct patronage dividends has led to confusion and has induced the belief by some that there is such a thing as partial exemption. This is not the case. The right to deduct patronage dividends, like other authorized deductions, is simply one that may be made in computing the net taxable income of an association, which is taxable on its net income, if any."

It is pointed out, however, that when a patronage dividend is declared as a definite liability during the year, it need not be paid except at discretion of the directors. We quote from Application of the Federal Income Tax Statutes to Farmers' Cooperatives, published by Cooperative Research and Service Division, Miscellaneous Report No. 63, page 135:

"There is no official ruling or decision, on the other hand, which indicates that an accrued patronage refund arising from a binding obligation which is properly declared and entered on the books as a definite unconditional liability, would not be excludable from gross income because it is not paid or is not payable within a short time after close of the taxable year concerned. Apparently such obligations may be made payable either at a fixed date of long or short term, upon dissolution, or at a date to be selected in the future by the directors as and when they feel the association's finances permit such payment."

Quoting again from the same report, page 130:

"There is no reason why an exempt or a nonexempt cooperative association should not obligate itself definitely to make patronage refunds regularly each year. Such a program need not prevent an association from obtaining sufficient funds for working capital purposes. That could be arranged merely by having the bylaws provide that the payment of patronage refunds shall be deferred until dissolution, or shall be given a stipulated short- or long-term maturity.

"Or, the bylaws could include a plan to pay patronage refunds either in cash or in noncash forms at the option of the association. Such noncash forms would include notes, bonds, certificates of debt, certificates of capital stock, or other capital equities, etc.

"These procedures would permit the association to accumulate needed working capital, yet would not prevent it from excluding the refunds in computing taxable income, provided, of course, that the refunds were obligatory."

In reading section 101 (12) of the Internal Revenue Code and noting the wording "Farmers', fruit growers,' or like associations organized and operated

on a cooperative basis," it is difficult to see how some cooperatives such as oil producers, refiners, etc., escape income taxation. However, in making a closer study we find that rulings have been made exempting cooperatives engaged in oil production and other activities. Quoting again from Application of the Federal Income Tax Statutes to Farmers' Cooperatives, published by Cooperative Research and Service Division of the Farm Credit Administration, page 23–24:

"in a recent unpublished ruling the Bureau in effect decided that the term 'purchasing' embraced the operation of oil wells and the extraction of crude petroleum. Part of that ruling, as addressed to the oil cooperative, is quoted as follows:

" 'Although you are not actually engaged in purchasing petroleum products for resale to your members or other persons, nevertheless, you are engaged in extracting crude petroleum from lands the mineral rights of which you have acquired either by purchase or lease and in selling this oil to your sole member and patron (an affiliated farmers' cooperative).

" 'It is the opinion of this office that you are organized and are being operated in substantial compliance with the provisions of section 101 (12) of the Internal Revenue Code, under which associations engaged in purchasing supplies and equipment for producers of agricultural products are exempt from income taxation.' [Bracketed wording added.]

"By reasonable analogy it appears likely that the basic production of any items sold as supplies and equipment under the limitations of the 50 percent rule and the 15 percent rule would be ruled to be a permissible activity for a tax-exempt farmer's cooperative.

"Such tax-exempt cooperatives may engage in the processing or manufacturing of farm products to be marketed for producers * * *.

"Aside from one ruling made in 1924 which was not fully conclusive, the Bureau has not published any definite pronouncement as to whether or not a tax-exempt farmer's cooperative may engage in the manufacture of products sold in its supply department. However, a number of farmers' purchasing associations engaged in such manufacturing have received letters of exemption. Furthermore, since the basic production of supplies now has been ruled permissible there seems little doubt that the manufacture of supplies would be considered a permitted activity.

"The following appears on page 239 of the Bureau's regulations 103:

" 'The term "supplies and equipment" as used in section 101 (12) includes groceries and all other goods and merchandise used by farmers in the operation and maintenance of a farm or farmer's household.'

"This broad definition apparently permits the handling of practically any items for farm or farm household use. So far as as can be determined, the term 'supplies and equipment' actually is so unrestricted as to include possibly any commodity, product, or article. Believed to be within the scope of that term are articles used on the person, such as clothing and other personal belongings."

There appears to be no doubt but that in the beginning Federal income tax exemptions extended to cooperatives was intended to assist small groups of farmers who would band together to market their products and to buy some of the things necessary for the conduct of their business. It is a well-known fact that in times past if not even today there are areas where the farmer finds it difficult to market his crops that come to fruition at the same time his neighbor's crops mature. Through this encouragement the small farmer was able to obtain a better price for his product by cooperatives for joining with others in making a full-sized shipping unit. These motives have merit and should be encouraged. Certainly no one could find fault with such a marketing plan. It might be said, however, that in actual operation of this worthy purpose the scope has been so extended that a more careful study would be justified of the law that grants the tax exemption and the privileges of borrowing. By the use of their borrowing capacity together with the fact that they can operate without paying income taxes the cooperatives have been able to make great expansion. It is not intended here to indicate that the loans made to the cooperatives are bad credit risks. The fact of their ability to operate in a large manner and maintain a tax-free status may make them a first-class risk. The extent of accumulated credit given them by banks for cooperatives and the central bank is set forth in the following tabula-

tion, published in Report of the Farm Credit Administration, dated December 31, 1943, page 10:

	Accumulated total	Yearly total	Year
1933–39	$491, 047, 432	$83, 359, 807	1939
1933–40	592, 278, 181	101, 230, 749	1940
1933–41	773, 847, 444	181, 569, 263	1941
1933–42	1, 026, 226, 943	252, 379, 499	1942
1933–43	1, 424, 808, 263	398, 581, 320	1943

The interest rates permitted on the above loans vary according to the purpose for which the loan is made. The interest rate on commodity loans is 1½ percent, operating capital 2½ percent, facility loans was 3½ percent until 1944 at which date the rate was increased to 4 percent.

In order that we might understand better the volume of business that is being handled through these cooperatives, we have taken from the Farm Credit Administration bulletin, Statistics of Farmers' Marketing and Purchasing Cooperatives, January 1944, page 3, report 70, the following tabulation which sets forth the estimated business done by farmers' marketing and purchasing associations for specified periods:

1938–39	$2, 100, 000, 000
1939–40	2, 087, 000, 000
1940–41	2, 280, 000, 000
1941–42	2, 840, 000, 000
1942–43	3, 780, 000, 000

We have endeavored to obtain all of the statistics and facts we are submitting from official publications of the Farm Credit Administration or the cooperatives themselves. In view of the many varying channels open for organization set-up, we have not attempted to cover in minute detail the system of organization, but are submitting summary information which we believe is of sufficient detail to present for your thinking all necessary factual data. According to the statistics furnished there are 3,850,000 members as of 1943 who belong to 13,267 local cooperatives which own and/or support 578 regional cooperatives or sometimes called supercooperatives. These organizations own or support 10 national cooperatives or sometimes called super-supercooperatives. Our information also discloses that an international trading and manufacturing cooperative is in process of being established.

The national or super-supercooperatives have entered various and sundry fields of enterprise prominent among which is the oil and its related businesses. The petroleum industry will doubtless be interested in knowing the facts as they relate to the cooperative association activities in the oil business.

The Consumers Cooperative Association, North Kansas City, Mo., is one of the 578 regional associations which has gone into the petroleum business more extensively than other regional associations. This association is headed by Howard A. Cowden. We wish to quote in part from a paper he delivered before the Conference on International Cooperative Reconstruction January 20, 1944, in Hotel Washington, Washington, D. C. (We realize there may have been numerous changes since the time of his report.)

"Since 1937 the petroleum cooperatives have made a remarkable growth. In 1937, when I proposed an international petroleum cooperative, there was not a single oil well, pipe line, or refinery owned by cooperatives. Today, 6 years later, there are, in the United States, 9 gasoline refineries, 1 lubricating oil refinery, nearly 300 producing oil wells, more than 1,000 miles of pipe line, all owned by cooperatives. In addition, there is a cooperatively owned refinery at Regina, Saskatchewan, which brings to 10 the number of coop refineries on this continent. In 1942, it is estimated by Farm Credit Administration, agricultural cooperatives distributed 655,000,000 gallons of motor fuels to farmers, or 22 percent of the total delivered to (all) farmers that year.

"In the meantime petroleum refining has gone beyond the regional stage to the national level. In July 1943, five regional cooperative wholesales organized

the National Cooperative Refinery Association to purchase and operate a refinery at McPherson, Kans., and a 229–mile refined products pipe line. The plant, at capacity, can produce 175,000,000 gallons of refined fuels annually. NCRA was the first national federation of its kind in the world. It is significant to me because it undoubtedly foreshadows an international development in all phases of the petroleum industry as a logical next step.

"In view of these developments, and in view of the fact that Europe may be using much more gasoline after the war than it did before, we are making the 1937 proposal in slightly altered form. The committee is suggesting for the serious consideration of executives of American and European cooperative wholesales that an international cooperative trading and manufacturing association be set up. It would have two divisions, one engaged in every phase of the petroleum industry and one engaged in food distribution and related supplies. It would be owned and operated by wholesales of this and other countries. It probably would be incorporated under the fairly new but adequate Cooperative Association Act of the District of Columbia. It would have offices wherever needed * * *.

"The second development which may help establish the proposed international cooperative is the lubricating oil refinery which Consumer Cooperative Association purchased on January 1, this year (1944). Located at Coffeyville, Kans., it will produce 11,000,000 gallons of lubricating oil annually. That capacity can be increased rather readily to 18,000,000 gallons a year, if necessary. This plant is ready to begin the exportation of motor oil to European cooperatives as soon as the war ends. We found before the war that we could meet competition abroad with co-op oil when we were, at the time, only oil blenders. Certainly we can do so now when we are manufacturing such oils.

"I am suggesting Texas as the location of an internationally owned refinery because I believe there is enough untapped crude oil under that State alone to supply the country for many years * * *.

"Perhaps a world survey will show that such a refinery, situated outside continental United States, might serve participating wholesales to better advantage than would a refinery in Texas. There are great oil resources in Mexico, Venezuela, Colombia, and in other parts of the world * * *.

"All this is preliminary to saying that cooperatives entering the field at the international level will do well to build their plants of whatever kind in strategic locations. And before some groups can participate it may be necessary for them to get barriers in their own country lowered or removed. I am thinking of countries where major oil companies have been given concessions by governments amounting almost to a monopoly, thus eliminating competition by statute * * *.

"In outlining the proposed International Cooperative Trading and Manufacturing Association, may I say to the skeptical that it is no more fantastic than the prediction would have been 4 years ago that United States cooperatives, in those 4 years, would come close to the top as independent refiners of petroleum products. Yet that is the situation today. There is little that is impossible, in fact, with organizations that count their members in the millions and their assets in the billions. I think we are on the threshold of a great cooperative advance. I have every confidence that cooperatives will become as big a factor internationally as they are nationally in many instances."

SUMMARY OF REPORT

1. Cooperatives must meet certain requirements in order to qualify for Federal tax exemption.
2. Cooperatives in meeting the requirements may nevertheless deduct patronage dividends in determining taxable income.
3. When a patronage dividend is declared it need not be paid, except at the discretion of the directors.
4. It appears that the producing and refining co-ops escape Federal tax more by reason of administrative interpretation than by express statutory immunity.
5. Apparently the original purpose of co-op legislation was to assist small groups of farmers, fruit growers, etc., to market their products and to acquire supplies essential to the conduct of their business.
6. The trend of cooperative operations has gone far beyond the original purpose.
7. The statutes and administrative interpretations, together with tax immunities, provide co-ops with a very favorable borrowing advantage.

8. Statistics reveal that for the year 1943 the volume of co-op business done reached an estimated amount of $3,780,000,000.

9. Co-ops have definitely entered into all phases of the oil business, and intend to expand nationally and internationally.

Mr. FELL. There is also a report in the Seventeenth Annual Report of the Consumers Cooperative Association, of which I shall try to get a copy and file with the committee tomorrow.

Mr. FRASER. Do you want those printed?

Mr. FELL. The one that I have just introduced I would like to have printed. It is rather short.

Mr. FRASER. And the other you prefer to file with the committee and not print in the record?

Mr. FELL. And not print it, unless you want to. We have no objection to your printing it.

STATEMENT OF H. B. FELL, EXECUTIVE VICE PRESIDENT, INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, ARDMORE, OKLA.

Mr. FELL. Mr. Chairman and gentlemen of the committee, my name is H. B. Fell and I live in Ardmore, Okla. I am a graduate engineer and have spent my entire business life in natural-resource industries and for the last 25 years I have been engaged in the oil and gas producing business. For nearly 23 years I have been president and treasurer of the Simpson-Fell Oil Co., of Ardmore, Okla., and for over 12 years I have been serving as executive vice president of the Independent Petroleum Association of America.

During World War II I served, first, as vice chairman of the District Two Production Committee and later as chairman, in which capacity I became ex officio a member of the District Two General Committee and of the Petroleum Industry War Council. As a member of the council I was made chairman of the production committee of the council. Illness necessitated my resigning from these positions early in 1944 but I retained my membership on the District Two Production Committee.

Testimony has been presented previous to this hearing, on all subjects on your agenda except "the independent company." The statements of our witnesses were furnished to and reviewed by members of the committee on "the independent company" and many suggestions were made to the witnesses for their consideration. The petroleum industry is too complex and the interests too diverse to expect unanimity of opinion on all subjects. These statements have, therefore, not necessarily expressed the unanimous nor even the majority opinion of the members of the committee but have been the personal testimony and opinions of the witnesses.

In this statement I have tried to summarize the testimony and opinions expressed by the witnesses and to discuss other subjects, on which you seek information, as outlined in the notice of the hearings. Where there is a diversity of opinion I have tried to present the different viewpoints.

Probably a few points covered at previous hearings should be referred to for emphasis, as follows:

1. Testimony presented at other hearings indicates definitely that the actual and potential oil supplies in foreign areas are so large

in comparison with possible future consumption that a more than adequate supply to meet consumption can be taken for granted for many, many years.

2. In connection with requirements in the United States, the previous testimony indicates a drop in demand in 1946 as a result of the ending of the war, but that this decline will be temporary and following 1946 that there will be a steady increase in requirements for crude oil in the United States up to a maximum of 5,735,000 barrels per day in 1965, which is as far in the future as the estimates were projected.

3. The testimony previously presented shows great unanimity of opinion that there is no danger of a shortage of supply in the immediate future. The cry of alarm that we are running out of oil, it is believed will be found just as much in error as similar cries made 27 years ago. The fallacy of such fears has been previously and thoroughly demonstrated, when with the proper incentive, the oil producers of the Nation continually added to the known reserves of crude oil. There is absolutely no cause to anticipate other than a continuation of this trend.

4. The burden of the testimony that has been presented to you is to the effect that oil has always been discovered and produced when and as needed and when conditions justify the cost of such development. Not until the industry fails under favorable conditions to find oil, will it be time for genuine alarm, but even then there will probably be no sudden exhaustion of supplies, and as we make a transition to synthetic products, all necessary requirements can be met from the known, proved resources that will then exist. Demand and price have been the regulators of production. The production in normal times always has been sufficient to meet the domestic demand, with negligible help from imports. If it is deemed important to achieve a balance within this country between domestic supply and domestic demand the automatic working of the price factor could readily remove the discrepancy if allowed to operate freely. With an adequate price, a sound import program, a reasonable tax program, and release from unnecessary Government restrictions, the domestic petroleum industry will be able to meet the crude oil requirements for many, many years in the future. What is needed is the demand, the money, and the opportunity.

5. The testimony shows that in addition to the estimated proved crude-oil reserves of nearly 21 billion barrels there are other billions of barrels that can be recovered by secondary recovery methods with an adequate price, and another large quantity that will be recovered from stripper wells with an adequate price. There will also be large additional reserves discovered through extensions of existing fields and through deeper drilling in known fields. There is a vast acreage of unexplored areas in which oil fields may be discovered involving 1,500,000 square miles. We must not forget the potential supply of probably 17 billion barrels of hydrocarbon products to be recovered from natural gas if it is necessary to use it for that purpose, nor must we forget the 92 billion barrels of liquid fuel that it is estimated by our Interior Department officials could be extracted from the oil-shale deposits in this country, or the additional 1 trillion 500 billion barrels from coal and lignite deposits. These figures, that have been

presented to you in other testimony, do not make it look as though we are going to run out of petroleum resources in the near future. They are sufficient to meet the Nation's requirements for generations to come, provided adequate incentives are permitted free of unnecessary restrictions. There is no sound basis for the statements that we are running out of oil and must become dependent on foreign sources of supply in the very near future.

In the testimony that has been presented at these hearings, the major portion has pertained to the independent oil producer. Testimony has also been presented with reference to the independent refiner. No testimony has been presented with reference to the independent transporter because there are very few nonintegrated transporters. The marketers on the committee did not believe that there were any problems of marketing involved in a question of a national oil policy and accordingly saw no need of preparing a statement with reference to the problems of the independent marketers for presentation to your committee. In an analysis of 30 oil companies, made by Joseph E. Pogue and Frederick G. Coqueron of the Chase National Bank of New York, they show that as of December 31, 1944, the net investment by those companies in the various branches of the petroleum industry, was as follows:

	Percent
Production	48.2
Transportation	12.9
Refining	21.5
Marketing	15.3
Others	2.1

This table shows the importance from the investment standpoint of the producing branch of the industry in relation to the other branches and in these hearings particularly where petroleum resources are being considered it is only natural that the majority of the testimony should have pertained to the producing branch.

INTEGRATION AND NONINTEGRATION

We understood that your committee, in these hearings, desired testimony with reference to the independent on the basis of considering the independent as the nonintegrated operator engaged only in one branch of the petroleum industry. We proceeded on that basis. There are four main branches in the petroleum industry, namely: Production, manufacturing or refining, transportation, and distribution or marketing. Some companies are engaged in all four branches of the industry and are known as fully integrated companies. Some of these are also engaged in foreign operations. Others are engaged in more than one branch but not in all branches and are referred to as partially integrated companies while others operate in only one branch and are referred to as a nonintegrated company or operator. It is the nonintegrated operator that we have discussed in these hearings.

Mr. Dow in his testimony pointed out a note of apprehension that exists concerning the survival and the success of the independent and refers to the fact that if the oil industry is to remain a competitive, free-enterprise industry, there must be strong independent units in each branch. This apprehension has increased substantially among the independents during the war period on account of the detrimental effect of Government controls and restrictions on their operations and

particularly on the operations of the independent producer. Integration, on account of its balanced operations, has certain benefits.

It has the advantage of tempering—

as Mr. Dow said—

the effects of changes that, in normal times, take place in the price structures. These changes may make production or refining or marketing more remunerative than it was before the change or may make it less remunerative. Integration absorbs the shocks as well as the gains and the integrated companies usually come to the end of the year with a profit although it may be low in relation to investment. Because of the fluctuation of supply in relation to demand that is characteristic of the oil business, the price structures are volatile and while they work against the large company as well as the small, they frequently leave the unintegrated refiner "in the red." At other times he may make a good profit and when he does, Government lays upon him the heavy hand of taxation. Small business cannot readily build up capital and grow under these circumstances. Consequently relief from excessive taxation is imperative.

The profits of the nonintegrated operator in each branch must come from the profits of the operation in that particular branch. The contention has been made frequently by some independents, probably more in marketing than in production or refining, that if they are to compete successfully with the fully integrated companies each branch of the industry should pay its own way. Some contend that if profits in one branch are used to absorb losses in another, then those losses tend to make it impossible for the independents or nonintegrated operators to stay in business in the branch of the industry that is operating at a loss.

During the war period the fully integrated companies have been able to operate at a reasonable profit. They have furnished special war products to the Government at prices that yielded a profit and there is no criticism whatever of their having operated at a profit. The independent producer, however, was caught in a squeeze due to the fact that the price for crude oil was frozen at a depressed level in 1941 after prices for refined products had been increased. Notwithstanding the increased costs for finding, developing, and producing crude oil the independent producer has continued with the same price for his product until the recent promise of a small over-all increase in price ceilings of 10 cents per barrel. This has increased the apprehension among many as to the disadvantageous position in which a nonintegrated operator can be placed in competition with fully integrated operations. A fully integrated company sells its crude oil in the form of products to the ultimate consumer and it is immaterial from which of its branches its profits are made. Integrated companies can make a profit even though one branch of the industry may be operating at a loss. That puts the nonintegrated company, many say, at a disadvantage.

Unsound marketing practices resulting from competition for gallonage frequently result in price wars and crude oil prices are then cut on the theory that the refined products prices are not high enough to support the existing crude-oil price structure. Independent oil producers do not believe that it is sound to base crude-oil prices on refined-products prices. The raw material, crude oil, is the foundation on which the industry is based. The industry price structure should be built up from a solid foundation of price for crude oil sufficient to cover replacement cost plus a profit in keeping with the hazards

of the business. The independent company should not be required to suffer from deficiencies occurring in some branch of the industry in which it is not engaged.

HAS THE POSITION OF THE INDEPENDENT COMPANY IN THE PETROLEUM INDUSTRY BEEN IMPROVED OR INJURED AS A RESULT OF THE WAR?

In the notice of these hearings one of the objectives announced was to determine primarily whether or not the position of the independent company in the petroleum industry has been improved or injured as a result of the war. I state unequivocally that the position of the independent oil producer was definitely injured as a result of the war. During the war many of the affairs of our industry were in the hands of those who lacked an understanding of the fundamentals of the petroleum industry and the problems faced by the producers and many of these Government men were totally lacking in any sympathy toward oil producers. Some were definitely antagonistic. The results have been detrimental to the industry and to the Nation as well and a sound and progressive oil industry cannot continue to exist with the handicaps imposed.

Crude-oil prices were frozen at a depressed level in 1941 and only a few minor adjustments in price ceilings were made thereafter until the recent promised penurious increase of 10 cents per barrel. The only relief the oil producers got was the stripper well premium payments which did not solve the problem of meeting greatly increased finding, development, and production costs. The producer was squeezed between rigid price ceilings and greatly increased costs. He was also continually worried by proposals for the Federal Government to enter the oil business or regulate it. Other recommendations by Departments of Government detrimental to the domestic oil producers with respect to import policy and tax policies were very harmful.

Materials, manpower, and wage controls, Government directives, reports required, et cetera, were a much greater burden on the independent than on the major companies, for the independent did not have and could not afford to have the necessary personnel to properly work under so many Government restrictions. Not having direct contact with Government bureaus in Washington placed independent producers at a great disadvantage. Well spacing requirements created many problems. Wider spacing resulted in a greater percentage of dry holes. Depressed crude-oil prices resulted in the independent oil producer losing competent employees to war plants and even to large integrated companies who were able to pay and still are paying much higher wages than the independent producer can pay. The independent oil producer is in a discouraged and weakened condition.

During the war period due, I believe, to unsound Government policies, the trend particularly in the producing branch of the petroleum industry, has been toward greater concentration in fewer hands. During the war crude-oil production was materially increased. Thirty-six of the larger companies increased their production more than the total increase throughout the country. One of the reasons was that they had larger excess productive capacity. That, of course, reduced their unit costs while the costs of the independent increased. This shows another injurious effect of the war on the independent oil producer.

The depressed crude-oil price ceilings have been more responsible than anything else for the growing concentration of oil production in fewer hands. Deeper drilling with higher costs requires more money. Greater financial resources of the larger companies have enabled them to carry on to date. If the independent oil producer is to maintain his place in the business there must be a much higher price for oil. An adequate crude oil price is essential to reverse this trend toward concentration.

THE INDEPENDENT OIL PRODUCER AND THE PRODUCTION OF OIL AND GAS

Independent oil producers not only find, develop, and produce crude oil but they perform their other responsibilities as individual citizens. They have contributed greatly to building communities, hospitals, schools, colleges, churches, farm roads, and other worthy projects. They are individualists. It is the individual who has made our country what it is and not the State. This probably is one reason your committee is particularly interested in the independent and his continuation in business. The elimination of small business would tend toward greater Government controls and centralization.

The independent has been a leader in discovery effort and in conservation. He believed and proved that we could find and develop sufficient oil in our Nation to meet our demands for national defense and for the welfare of our country in time of peace. He insisted we not be dependent on foreign oil. It was that insistence that made it possible for us to have the reserves, the excess productive capacity, and the trained men available to meet the oil requirements of our country and our allies in the recent war.

In conservation the independent oil producer favors State regulation of production to conserve the oil and gas resources. He wants to keep regulation close at home where he can be heard. Washington is too far away. The independent producer favors State conservation laws, fairly and effectively enforced. He favors the Connally hot oil law, enacted by the Federal Congress which prohibits the transportation of crude oil or the products thereof produced in violation of State laws or regulations. He favors scientific, impartial estimates by the Bureau of Mines of the Department of the Interior as to consumptive market demand from each State for each month, such estimates to be made available to the various State regulatory bodies on or before the 20th of the month preceding the month for which the estimates are made, and he favors the continuance of the Interstate Oil Compact Commission. These policies have been in effect for several years and they together with other sound policies have been responsible for the development of the reserves and excess productive capacity that was available for our oil needs.

The independent oil producers have been leaders in secondary recovery operations and a great majority of these operations are being carried out by them. They have also been leaders in exploratory effort and in the discovery of new reserves. The ingenuity and resourcefulness of the independent oil producers is essential to the continuation of our discovery program.

Under the conservation program more capital is required for the oil producer to stay in business. In the old days of unrestricted flow many wells would pay out in a period of 2 or 3 months. Under con-

servation practices it generally takes several years for a well to pay out its cost. The producer can generally borrow money on the basis of his proved reserves, but the slow pay-out necessarily means that he must get a greater price for his oil per barrel in order to get the same return. In other words conservation costs something. The public gets more oil and they should be willing to pay the increased costs that result from the conservation program that provides them with additional oil and petroleum products at reasonable prices.

SECONDARY RECOVERY

The importance of secondary recovery has been fully discussed.

In the Bradford Field of Pennsylvania primary production amounted to about 250,000,000 barrels but in the 20 years since water flooding was started the field has produced another 220,000,000 barrels of oil and with present known methods there are approximately 100,000,000 to 125,000,000 barrels of oil still to be recovered. With the best knowledge now available it is estimated there will still be 700,000,000 barrels left in the field when it is finally considered depleted. It is estimated there will be 100 billion barrels left in the oil sands in the United States when all present known methods of operation are finished.

Prices that are too low result in waste. Prices should be sufficiently high to bring about the greatest reasonable recovery of oil from the sands of the United States. Mr. Andrus in his testimony stated:

> We have not yet come to the end of our supply of flush fields and hate to pay the slightly higher price for oil products which would make it possible to obtain more than twice as many barrels per acre from our crude reserves. The price set for oil has been based on competitive flowing, not efficient clean-up. Our great ability to produce was a life saver in war and is necessary for our peacetime economy. However, we must keep it under control if we are to get the maximum in wealth and jobs from the oil reserves in our keeping.

An increase of around one or one and one-half cents per gallon for crude oil over the present-day price would be enough to make tremendous areas throughout the country available for secondary recovery. This is a small price to pay for a commodity that is so essential to our national defense and our peacetime welfare.

The Bureau of Mines should cooperate with the efforts of private industry and the various States in a thorough and scientific manner in the problem of reclaiming this residual oil in the manner that the Bureau is now doing work for shale oil and synthetic fuels. This should be scientific work and should not be the type of work that would put Government in competition with private enterprise.

The Federal Government should also adopt policies which would encourage the maintaining of a price for crude oil which will allow private industry to obtain the maximum in production and employment from these irreplaceable resources.

CONSERVATION OF STRIPPER WELLS

In the United States the stripper wells comprise 71.8 percent of all the oil wells; they produce nearly 13 percent of the oil produced; they have an average production of about 2 barrels per day; and approximately 20 percent of the Nation's total crude oil reserves underlie these

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wells. Their continued operation is of vital importance in connection with secondary recovery operations.

Even the Office of Price Administration recognized that the present posted price for crude oil was inadequate to maintain stripper wells in operation. They instituted premium payments for crude oil produced from stripper wells. Should these premium payments be discontinued without a substantial increase in the price of crude oil, it will result in the abandonments of thousands and thousands of stripper wells and the loss of the underlying reserves. The only way that stripper wells can continue in operation is on the basis of an adequate price.

If, because of an insufficient price, large abandonments appear imminent, the question has been raised as to whether the reserves underlying stripper wells are of sufficient importance to the economic welfare of our Nation and to its national defense to justify some special means of keeping them in operation. The vast majority of these wells can be continued in operation at a price less than the competitive price for petroleum products from other sources such as shales and coal. Many consider that it would be a waste to permit these wells to be abandoned before the price for crude oil reaches nearly a competitive level, which level is around $2 to $2.25 a barrel.

Various suggestions have been made as to what should be done with reference to this stripper well problem. Mr. McClure has submitted all these suggestions to you, including an adequate oil price structure, the proposal for a price differential for stripper wells, a price floor for stripper-well production and a survey by the proper agency of Government of the problem to determine what, if any, action should be taken to prevent these abandonments under normal, competitive price conditions.

PRICE

The most important factor in finding, developing and producing crude oil reserves to keeping the independent oil producer in business is an adequate price for crude oil. Irrespective of how the other requirements of the independent oil producer are met, he cannot fulfill his obligation to the Nation or stay in business without an adequate price. The oil producer must receive a price for his oil sufficient to cover replacement costs, including taxes, and have a profit commensurate with the hazards of the business in which he is engaged. He must receive sufficient money from the oil he sells to drill an increasing number of wells in order that we may have an adequate supply of petroleum products in time of peace and in time of war.

Adequate prices for raw materials are essential both to the prosperity of our Nation in time of peace and to its safety in time of war. The continued prosperity of our country depends largely on the prosperity of the raw-materials industries including oil production.

Over the years the average service-station price of gasoline, excluding tax, at 50 representative cities, has been reduced from 25.434 cents per gallon from January 1, 1919, to 14.19 cents per gallon on November 1, 1945, and the octane rating has been increased from probably about 50 to up around 80, thus giving the consumer a much better product. At the same time, however, the State and Federal Governments have increased the taxes on gasoline to such an extent that the

major portion of this benefit to the consumer has been absorbed by Government in increased taxes. In Oklahoma we are now paying, in addition to the 1½-cent Federal gasoline tax, a State gasoline tax of 7½ cents per gallon of which 2 cents was added last year by the State legislature. The Office of Price Administration has said that increases in petroleum products prices were inflationary. The wholesale price of regular gasoline in Oklahoma, according to Platt's Oilgram, is only 5 cents per gallon today with 9 cents tax on it. Increased gasoline taxes forced the consumer to pay more for a petroleum product but we hear no cries from the Office of Price Administration that such action is inflationary.

Primarily the cost of crude oil is basic and should be sufficient to cover not only all costs of operating proven oil properties but of the cost of exploring for, discovering and developing new reserves of crude oil to replace the oil currently produced. Price also affects the ability of stripper wells to continue in operation and to recover the underlying reserves. It also affects the extent of exploration work and the quantity of new proven reserves made available. If too low a price exists it tends to create waste. Prices of all other commodities, particularly raw materials and wages, enter into the cost of oil and some equitable relationship must exist between oil prices, if adequate quantities of crude oil are to be made available. The price must provide a margin above cost sufficient to make available funds for exploration, funds to cover replacements costs, funds for secondary recovery or other conservation measures, a fair return on borrowed and invested capital, taking into consideration the hazards involved and to maintain the industry as a healthy going concern. Historical or past costs are not a proper basis for determining adequate prices. Prices must be based on current or replacement costs.

I desire to stress the fact that by 1945 the hourly wage index was nearly 200, the lumber price index over 155, the bituminous coal price index over 120 and the all commodities index over 105, while the crude price index was still under 65. These figures are shown in the chart entitled "Crude Oil Price at Depressed Level" accompanying Mr. Becker's testimony. [*Supra*, p. 218.]

The effect of price on the number of net oil wells in operation is shown very effectively in the chart entitled "Price Normally Stimulates New Oil Supply" accompanying Mr. Becker's testimony. [*Supra*, p. 220.] The higher the price the greater the number of wells in operation while the lower the price, the smaller the number of wells in operation.

During the period from July 26, 1941, down to date the producing branch of the petroleum industry has made every possible effort to secure a proper increase in the price ceilings for crude oil which were frozen at the depressed levels of 1941. Hearings after hearings have been held before congressional committees and in no case has there been any disagreement on the part of any congressional committee as to our position that an increase in crude oil price ceilings was necessary and justified. The Petroleum Administrator for War recommended an average increase of 35 cents per barrel in 1943. The oil regulatory bodies of the various oil-producing States and the Interstate Oil Compact Commission have all recommended increases

in crude oil price ceilings. The Petroleum Industry War Council made such recommendations. Notwithstanding the unanimity of opinion by those with long experience in the petroleum industry and notwithstanding the soundness of the testimony presented, the Office of Price Administration failed to provide any over-all increase in the price ceilings for crude oil until the recent promise of a small amount of 10 cents per barrel. This was after a report of their own National Crude Oil Advisory Committee had shown that an 80-cent-per-barrel increase was needed and had recommended an immediate increase of 35 cents per barrel.

It is going to be impossible for the independent oil producers to stay in business and to find the new reserves that are going to be needed in the future, if they are to continue to be subjected to the arbitrary rules of bureaucratic agents of Government. They cannot exist under such type of control.

The fairest and best solution is to eliminate all price controls on petroleum and its products. There is no shortage of petroleum, petroleum products or facilities. Competition will bring on reasonable prices as in the past. Price controls should be eliminated where supply is in excess of demand. The Office of Price Administration in the interim should raise crude oil price ceilings at least 35 cents per barrel immediately and make appropriate increases in products price ceilings.

IMPORTS

An adequate price is of no benefit unless there is a market for the crude oil available. Without a market the domestic oil producer cannot exist. Therefore, he is entitled to have the first opportunity to supply all the needs of the United States at reasonable prices and imports, if any, as might be necessary to supplement the domestic supply should only be in amounts equivalent to any difference between the United States demand and the maximum efficient producing rate of the domestic industry and at no time should such imports be in volumes or on a basis so as to harm the domestic oil producers.

These principles, in general, have been approved by the entire industry. The important problem now is the formulation of sound and workable procedure. We are confronted with the problem that the imported petroleum and its products have lower production costs and could be sold at lower prices than comparable petroleum and products produced in this country delivered at Atlantic seaboard ports. Those receiving the imports, therefore, could have lower cost products to offer in competition with their competitors. In order to secure markets they might offer these products at lower prices, thus breaking down the price structure and bringing about lower and lower prices for crude petroleum in this country so it seems essential that adequate excise taxes on imports must be made effective.

A proper import program might require some legislative action. Under the provisions of the Reciprocal Trade Agreements Act certain trade agreements were made with Venezuela and Mexico, as a result of which there are now no limitations on imports and the excise taxes on crude oil and fuel oil have been reduced from 21 cents per barrel to 10½ cents per barrel. Last year Congress granted authority

to the President to make further trade agreements wherein the excise taxes on imports of fuel oil and crude oil could be reduced another 50 percent, down to 5¼ cents per barrel. Imports are now at a very high level.

It would seem proper for the State Department to hold a conference with the domestic producers and importers and endeavor to ascertain whether a satisfactory understanding cannot be reached as to the quantities of crude oil and its products that should be imported into the United States in relation to domestic production and the amount of excise taxes that might be required to equalize the cost of the imported and domestic crude oil and products. With such an understanding the State Department, supported by the domestic producers and the importers could then properly ask Congress to enact the necessary legislation to make such a program effective. If an economic climate is to exist in which the domestic oil producer can live, there must be proper control of imports.

TAXES AS A FACTOR AFFECTING THE INDEPENDENT PRODUCER OF OIL AND GAS

An adequate market and an adequate price are not enough. The producer must not have his income absorbed by unsound tax policies. He must be permitted to keep sufficient money to plow back into drilling additional wells. We have only been drilling wells at about half the rate we should. We cannot increase our drilling program without more money. We would not have drilled as many wells during the war as we did had it not been for money furnished from outside the petroleum industry. The oil producer must be assured that the percentage depletion allowance and the right to expense intangible drilling costs will be maintained permanently and that he will not be subjected to excessive tax rates. He should also be freed from competition from tax-exempt organizations. Excessive gasoline and excise taxes on the domestic industry should be eliminated.

Congress in its wisdom has for many years maintained the percentage-depletion allowance and the right to expense intangible drilling costs, as being part of a sound tax program for the petroleum industry. They are part of the economic structure upon which the producing branch of the petroleum industry has been built. They have proved their worth in the development of adequate crude oil reserves in this Nation. If departments of government woud refrain from continually attacking these provisions so that the industry could be assured of their permanence it would be one of the most helpful things that could occur. The independent oil producer is more affected by these provisions than the fully integrated company because he is dependent entirely on profits from the producing branch of the industry. Many integrated companies could continue to operate profitably without being engaged in the production branch at all, so it is particularly important that the independent producer be given some assurance of the permanency of the tax provisions referred to.

Another important need for all businessmen is the stabilization and simplification of income-tax laws and administrative procedure so that they can make long-range plans without being unduly hampered with uncertainties of tax liabilities of prior years.

THE INDEPENDENT REFINER

While there is rather great concentration in the refining branch of the industry to the extent that 21 companies in 1944 processed 83.51 percent of the crude oil and 7 companies processed 53.61 percent, there were still some 234 independent refining companies that processed nearly 16½ percent of the crude oil, thus providing vigorous competition in the refining branch.

The independent in this branch, as in the others, embodies the spirit and is the substance of free enterprise. There is apprehension on the part of some with reference to the survival and the success of the independent. If competitive conditions or practices make it impossible for the independent to start, to grow, to live, and to prosper, then some will ask the Government to take some action. Under our system of Government many independents believe there must be strong independent units in every branch.

The independent refiner usually has a large amount of his own money and generally the money of a few associates and friends in the business, and usually manages the business himself. His plant is frequently near the source of supply and often furnishes a market for crude oil which would otherwise have no market. In the past and particularly prior to 1930 the independent refiner practically always paid the full posted price for crude oil and frequently a premium, and the payment of these premiums often brought about increases in the price of crude oil as a result of the competition for the oil. The independent refiner must be able to make a profit on his operations and the independent producer recognizes the necessity for this and the problem that confronts them in that they can rarely sell their products at higher prices than the majors receive for their highly advertised products. The independent producer believes that he should receive replacement cost, plus a reasonable profit and that refined products prices at the refinery should then be sufficiently high to enable the refiner to make a profit after paying a fair price for the crude oil. The independent refiners play an important part in providing local employment in the communities in which they operate.

The return on the capital invested in the refining branch of the industry is small, particularly considering the hazards involved. Income taxes on corporate earnings and on dividends received by the individual stockholder in an independent refining corporation, place a great burden in the way of double taxation on these small enterprises. This is likewise true on the small company engaged in any branch of the petroleum industry. The independent refiners believe that small business is a necessity on which the life of the free-enterprise system depends. They have a service to perform which they have done effectively for many years, and their continuation in business is important to our welfare.

A PROGRAM

I believe that most of the recommendations of the witnesses have been covered in this summary. I will endeavor, however, to outline some suggestions briefly.

1. If the independent oil producer is to continue in business there must be an adequate price for crude oil. The best and most effective action would be:

(*a*) Remove price controls from petroleum and its products.

(*b*) In the interim recommend to the Price Administrator an immediate increase in crude oil price ceilings of at least 35 cents per barrel with appropriate increases in products price ceilings.

(*c*) Develop a public understanding of the fact that conservation of oil and adequate supplies require a price for crude oil in excess of replacement cost in an amount commensurate with the hazards of the business.

2. Recommend that the State Department hold conferences with domestic producers and importers in an effort to determine a proper import program.

Recommend legislation placing excise taxes on imported crude oil and products equal to the difference between the cost of the imported and domestic products at Atlantic seaboard ports and limiting imports to some definite percentage of refinery throughput in the United States.

Mr. Fraser. In your recommendation to the State Department, you are not bypassing Congress there, are you? You do not intend to recommend that the State Department hold conferences with domestic producers and importers to determine a proper importing program?

Senator Moore. You mean under the present laws?

Mr. Fraser. Is that what you mean, under the Reciprocal Trade Agreements Act?

Mr. Fell. You see, until you get some change in legislation, your only chance, Mr. Fraser, is through the State Department.

Mr. Fraser. The long-range import program, I think, is way beyond this reciprocal trade agreement program, which is sort of a temporary project.

Mr. Fell. Yes; the second is our long-range program, the excise taxes and the percentage restriction. [Resuming:]

3. Recommend that there be a definite governmental policy that the provision covering percentage depletion in the Revenue Act and the regulation permitting the expensing of intangible drilling costs be continued permanently.

4. Conservation of oil and gas is a proper function of the States. Encourage every oil and gas producing State to adopt a sound conservation law and to enforce it fairly and effectively through its regulatory body.

5. The Federal Government should support the States in their conservation program by—

(*a*) Continuing as permanent the Connally Hot Oil Law, prohibiting shipment in interstate commerce of crude oil or products produced in violation of State laws or regulations.

(*b*) Continued approval of the Interstate Oil Compact as a proper means of cooperation between the States in conserving oil and gas.

(*c*) The continuation by the Bureau of Mines of monthly, impartial, scientific forecasts of consumptive demand for crude oil from each State. These should be released by the 20th of the month preceding the month for which they were made.

6. Government policy should be to encourage an adequate price for crude oil and gas to provide the necessary reserves for our national defense and for our national welfare in time of peace. An appropriate Government agency might be authorized to make a study to determine whether stripper well reserves are of sufficient importance to our na-

tional defense to justify any program to prevent their abandonment and to encourage secondary recovery operations when crude oil prices reach too low a level under free competition and, if so, to recommend specific means of accomplishing the desired purpose.

7. Government should encourage research by the Bureau of Mines of the Department of the Interior in relation to improved secondary recovery operations and in relation to the development of synthetic fuel from coal and shale, but this work should be purely scientific and not of the character that would put Government in business competition with private enterprise.

8. Remove war restrictions.

9. The leasing of Government lands for oil and gas development should be under one department of Government and leases should be made uniform and in a form similar to commercial leases with a royalty of one-eighth. Leasing of public lands was fully covered in testimony before a subcommittee of the Public Lands Committee of the Senate by Judge Warwick M. Downing, of Denver, and I would request that that testimony be made a part of the records of this hearing.

Senator O'Mahoney presided at that hearing in Denver.

Senator Moore. Yes; I know that.

Mr. Fell. I believe all of the previous suggestions will be helpful to the independent if made effective and we are hopeful will develop an economic climate that will permit the independent operator in each branch of the petroleum industry to live and function effectively.

Senator Moore. Thank you, Mr. Fell.

Are you the last witness?

Mr. Fell. Yes, sir.

Senator Moore. What about the witnesses that we were to have later?

Mr. Fell. We have some stripper-well operators that want to testify in the morning, you remember, Senator Moore.

Senator Moore. Are they here? I suggest we might stay here until after supper and get that over with today, if they want to testify.

Mr. Fell. No; they are not here.

Senator Moore. How much time are they supposed to consume?

Mr. Fell. I would not think over an hour, or an hour and a half.

Senator Moore. Mr. Reppert, you wanted to introduce some testimony here?

Mr. Reppert. Mr. Noble is here. He is the director of the services accounting and audits division, in our office.

Senator Moore. That is to take issue with a point that was made?

Mr. Reppert. Yes; with the point that they made with respect to computing costs. We differ with them on their approach to that problem.

Senator Moore. Couldn't that be prepared in a paper to be filed with the committee?

Mr. Reppert. Yes; it could.

Senator Moore. Wouldn't that be a better way to handle it?

Mr. Noble. I think it would be a good thing to prepare such a paper, sir. I would just like to make one brief statement pointing out the issue, unless you feel we do not have the time.

Senator Moore. There is a limit on our endurance, but you may proceed.

STATEMENT OF LINDSLEY H. NOBLE, DIRECTOR, SERVICES ACCOUNTING AND AUDITS DIVISION, OFFICE OF PRICE ADMINISTRATION

Mr. Noble. I am speaking as a representative of the accounting department. It is our job not to set prices or be interested in price policy; it is our job to determine accounting or economic facts as represented by accounting practices.

When we were asked by the Price Branch to determine the earning position of an industry, we applied the accepted accounting practices. And when we are asked if the figures presented by the committee on the replacement cost basis represent the earning position of the industry, we are compelled to say no; the method followed in the development of replacement cost is entirely contrary to the practice of accounting followed by the industry in its own corporate accounts.

We have asked members of the committee to name a single company that keeps its books on that basis, and we have yet to learn of one. Mr. Russell Brown, in testifying before the Senate Banking and Currency Committee, stated categorically that it had never been the practice of the industry to keep its books on that basis.

So we simply say that if you wish to set a ceiling price which will return replacement costs plus a profit, the profit, as an accountant would determine it, is being seriously understated. We do not say that we should not have that additional profit to provide the capital it may require. That is not the issue. But you are simply by that process not stating the profit as it would be determined by an independent accountant and as it is reflected in the books of accounts of the oil industry itself.

That was the only issue I wished to make clear.

Mr. Fell. Senator Moore, I would just like to say this, with which you are very familiar. You know that as an oil producer you go out here and drill up a bunch of properties and then you stop drilling, and your bookkeeping accounts will show you then the profit year after year. But you know, finally, you are just out of business even though the bookkeeping showed a profit.

Senator Moore. You mean, if you do not have money in the bank?

Mr. Fell. Here is the thing. We do not show our goods on the shelves in our inventory at the first of the year and the last of the year as they do in a merchandising business.

Senator Moore. I see what you mean; yes.

Mr. Fell. You can show a bookkeeping profit and still go broke. You will just liquidate yourself out of business.

Mr. Jacobsen. May I say a word, Senator Moore?

Senator Moore. Mr. Jacobsen, we will be glad to hear from you.

Mr. Jacobsen. When Mr. Noble says that the cost statement prepared by the advisory committee is not based on the same system that the companies themselves use in connection with the replacement cost, then I do not think that statement means anything because there is no occasion for any oil company to keep books on the basis of replacement cost. That would just involve guesswork as to what the replacement cost is going to be.

Senator Moore. I see.

Mr. JACOBSEN. A company must keep its books on a historical basis. In other words, the only way in which a company can keep its books is by charging up the cost of what you buy and crediting the cost of what you sell. There is no other way of doing it. But no oil company has any occasion to keep its ordinary business books on the basis of replacement cost. Consequently, the statement that they have not found a single company doing it does not mean a blessed thing.

Senator MOORE. I see what you mean.

Does that answer your criticism, Mr. Noble?

Mr. NOBLE. No; it simply means that if accounting means anything in determining profit and loss, when you depart from that you are not stating the profit and loss as it would be determined by accountants which form the basis on which dividends are paid in the management of companies. We were simply concerned to see that the type of confusion and departure from accounting standards which exist in the tax laws be not repeated in the accounting procedures for fixing price determinations as far as earnings were involved.

Mr. FRASER. Would you subscribe to the view that accounting really is not an exact science, but tends at times to become rather mystical?

Mr. NOBLE. Yes, sir; accounting is not an exact science; it is more of an art. But we feel, as the gentleman just said there, the historic cost is better than the estimates which are just guesses, as he said, which is what the replacement cost represents.

Mr. FRASER. Of course if I have a building I can guess very closely what it would cost to replace it, because I would have to buy some bricks that are so much, and some timber that is so much, and the labor at so much, to build a structure of a certain cubic content. But I cannot for the life of me decide how much money will be required to replace this oil well that I am depleting. Isn't that really about the sum and substance of it?

Mr. FELL. That is the whole thing, Mr. Fraser. And you can just go out of business on your bookkeeping costs, if you follow those.

Senator MOORE. You will just run out of money?

Mr. FELL. Yes; you will just run out of money.

Mr. NOBLE. All we ask is that you call a spade a spade, and that you not say that replacement costs represent your margin of gain and loss.

The committee has admitted that in its own report. These accounting practices do not reflect what they call the economic gain or loss. But if you need more funds to replace the assets being consumed that is one thing. But let us not call it cost. Let us say we need additional margin with which to replace the more expensive assets that are being destroyed.

Mr. FRASER. Then it is not so much a question of accounting as it is one of semantics.

Mr. NOBLE. Perhaps.

Senator MOORE. Your witnesses will be here tomorrow, Mr. Fell?

Mr. FELL. Yes; I understand that.

Senator MOORE. Very well. We will adjourn until 10 o'clock tomorrow morning.

(Whereupon, at 5:35 p. m., the committee adjourned until 10 a. m., Friday, March 22, 1946.)

THE INDEPENDENT PETROLEUM COMPANY

FRIDAY, MARCH 22, 1946

UNITED STATES SENATE,
SPECIAL COMMITTEE INVESTIGATING PETROLEUM RESOURCES,
Washington, D. C.

The special committee met, pursuant to adjournment, at 10 a. m., in room 318, Senate Office Building, Senator E. H. Moore presiding.

Present: Senator Moore.

Also present: Henry S. Fraser, chief counsel to the special committee.

Senator MOORE. The committee will be in order.

Mr. FELL. Mr. Chairman, the witnesses selected by the committee on the independent company finished their testimony yesterday. There are some of the stripper-well operators that feel some of the problems of the stripper wells have not been fully covered, and they would like to present some additional testimony on stripper wells. Mr. J. D. Sandefer, Jr., of Breckenridge, Tex., will be their first witness, and he will handle the hearing of those witnesses from here on.

STATEMENT OF J. D. SANDEFER, JR., INDEPENDENT OIL PRODUCER, BRECKENRIDGE, TEX.

Mr. SANDEFER. Gentlemen, my name is J. D. Sandefer, Jr. I live at Breckenridge, Tex., which is in west central Texas. I have been in the oil business 25 years. I was president in 1944 of the National Stripper Well Association. As such I sat on the Petroleum Industry War Council, and also had the privilege of sitting with the OPA advisory committee, after it was decided that a subsidy would be given to the stripper wells of the United States.

From my 25 years of experience in producing oil, the fact that I was president of the National Stripper Well Association and came in contact with various independent stripper operators throughout the United States. and the fact that I conferred many times with the OPA, after a subsidy was adopted, and the many problems connected therewith, I believe that I have a pretty good picture, from experience, of our problem.

I do not have a written statement. I read Mr. McClure's statement time and again, and I think he covered a lot of the facts, nearly all of the facts.

The story of the stripper wells, that are operated by the small independent like I am, has been told many times. It is a problem, and we well realize it.

Mr. FRASER. Do you differ with Mr. McClure's statement in anything he said, or are you amplifying it?

Mr. SANDEFER. I agree with him, sir, in the main. I want to tell the committee that I do not want you to get the wrong impression that every stripper was once a gusher, because a stripper well can be a

stripper well from the time it is born until it goes out. All gushers in time become strippers.

It has been said by Mr. McClure and others, and I want to reemphasize, that in 1944 stripper wells produced 217 million barrels.

Senator MOORE. What year was that?

Mr. SANDEFER. That was in 1944, Senator. I want to state again that according to OPA records, a Government agency, 74 percent of the wells of the Nation were classified as strippers.

Mr. FRASER. What is the definition of a stripper well?

Mr. SANDEFER. A stripper well is a well where the income and expense are approximately the same, where they rapidly approach one another.

Senator MOORE. That would not necessarily mean that it is based altogether on the size of the well?

Mr. SANDEFER. That is correct. You may have a stripper well that makes 50 barrels, but when it comes to the matter of whether or not that well can be produced at what it cost to get the oil, Senator, that stripper well is not producing at a profit.

Senator MOORE. That would be due to the necessity for pumping a great deal of water?

Mr. SANDEFER. That is correct, sir.

Senator MOORE. Maybe the great depth of the well might have something to do with it.

Mr. SANDEFER. I just want to bring you a little bit of the picture. I have two or three others who will testify as to the conditions that surround the stripper wells in their districts. For instance, I am abandoning, while I am in Washington, 10 wells. I have held those wells for years hoping to get a price that would allow me to do secondary recovery, and I think there is oil under them. I have four other leases that I have held on to, that I have been led to believe with a fair price and a fair margin of profit would be subject to water flood. I am told that there is as much oil under them as I have already produced, and they have been good wells.

I agree with Mr. McClure again that the price of oil in the past has been set by flush areas, not by the cost of getting this 5 billion barrels that is left under the strippers. I want to make myself entirely clear, that every stripper well is not subject to secondary recovery. According to the industry, they claim we have 20 billion barrels of reserves and they set from 4 to 5 billion as being under stripper wells.

I just want to end my short testimony, gentlemen, by saying that my experience in the oil business has led me to believe, from past experience, and that is all I can base it on, that the price has never been such as will allow us to do secondary recovery and recover these barrels of oil that are in the ground. I think it is an important matter to not leave those barrels of oil in the ground, and I do not know any other method or way to get it except by higher price, where the Government makes some arrangement to protect this natural resource. My experience for the last 20 years indicates that what we have been paid by the major companies will not allow us to do it. What the future holds for us, I do not know; I can just hope.

Mr. FRASER. Do you have any thoughts in regard to subsidies?

Mr. SANDEFER. Any thoughts? You will have to amplify that just a little.

Mr. FRASER. I was making it a little general, so your reply can be just as general as you wish.

Mr. SANDEFER. Well, the question has been asked as to where we might get this money. That is a big problem. I do not have the direct answer. All I can say is I had hoped we might get it out of some of the taxes that the petroleum industry is now paying and has paid into the general fund. I had hopes that the Government might give it to us from the same source, or it might come from the same source that the air-mail subsidy came from, which developed the great aviation industry and which meant so much to us in the war that we just won. I had hoped it might come from where the money to take care of soil erosion and flood control came. That, sir, is just a matter of my very loose thinking.

Mr. FRASER. You do not shy away from the theory of subsidies in time of peace?

Mr. SANDEFER. Yes, sir. I think there are some subsidies though that cost so little that for the public interest they are very well worthwhile. I will say that some subsidies are for national defense, and they are of such small cost that they afford a sound investment for the security of our country.

Senator MOORE. Well, the State of Texas produces a tremendous amount of oil and is dependent, to a great extent, as far as prosperity and over-all economic betterment is concerned, on the maintenance of as much of this oil production as possible. If you are saying that the Government should pay a subsidy, what would you think about the State of Texas paying a subsidy?

Mr. SANDEFER. Senator, we have discussed that, but I do not think you would ever get that by our friends down there, who are friends of mine. They would never listen to it.

Senator MOORE. Well, they would have to pay it anyway, would they not, if it came through the National Treasury?

Mr. SANDEFER. Yes; but to tell them that, it would be a pretty hard selling matter.

Senator MOORE. You are pretty proud of your government in Texas, aren't you?

Mr. SANDEFER. Am I proud of my government in Texas?

Senator MOORE. Yes.

Mr. SANDEFER. I think we won the war.

Senator MOORE. I knew you would feel that way about it.

Mr. SANDEFER. May I say we had a little help from Oklahoma.

Senator MOORE. Well, that thought had never occurred to me before, but I think you are pretty diffident about advocating a subsidy from the Government.

Mr. SANDEFER. Yes, sir. I think that is our only hope, perhaps not for my salvation but for others. There are small independent operators that have no other income except what is left after they pay their actual expenses, sir.

Senator MOORE. Personally, I am very sympathetic with what you might call the stripper well owners.

Mr. SANDEFER. Yes, sir; I believe you are.

Senator MOORE. I have had considerable experience with them, and that problem has bothered me for many years, whether to continue to produce those wells at a small profit or whether to abandon them, and I probably was considering most my personal private concern when I was thinking about that. Now, basing this upon the public interest we concede, of course, that it is in the public interest.

Mr. SANDEFER. That is correct, sir.

Senator MOORE. To maintain the reserves as long as we possibly can.

Mr. SANDEFER. Yes, sir.

Senator MOORE. Don't you think, under your conservation laws in the State of Texas and in the personal interest of the industry, that they might handle that so as to conserve these stripper wells as long as possible, and may not the enforcement of the proration laws and conservation laws of Texas be so applied that the price that is necessary to maintain these stripper wells on a profitable basis might be accomplished through the application of the laws that you have in the State of Texas, and other States?

Mr. SANDEFER. Senator, I would not think so. I would think if every oil operator, and those in Government, had given as much thought to this problem as I have, that perhaps it might change their way of thinking. But they do not realize the fact that three out of every four wells in the United States are in the stripper class and others will rapidly approach that, and they have approached much more rapidly during the heavy pull to furnish the demand for oil during the war. I could not ever get that by in the State of Texas, I think.

Senator MOORE. The situation during the war and in peacetime are two entirely different situations.

Mr. SANDEFER. That is correct, sir. But still we need our natural resources for future wars which we hope and pray will never come.

Senator MOORE. Yes; that is a consideration. What would be the general consensus of the business interests in Texas, including the oil industry? How would they feel about the continuation of a subsidy for any product?

Mr. SANDEFER. We want to do away with OPA, as far as the control of the oil industry is concerned. I do not want you to misunderstand me, that I am for doing away with OPA and turning our industry loose without some assurance that stripper well reserves can be preserved. Even if the price should come up to where it is now, with the present subsidy, we cannot protect these reserves. It takes a lot of faith to think that the major companies will pay us a higher price in the future than they have in the last 20 years. I hope they do.

Senator MOORE. If they have been induced to do that through their own selfish interests so that they might not experience a shortage of oil for their future use, there might be some pretty good reason for thinking that they maintain the price so you could continue to pump what you call stripper land.

Mr. SANDEFER. Well, it is not so much a question of continuing me in business, or to keep others in business, but it is a question of whether or not these reserves are worth keeping that we have talked about and talked about.

Senator MOORE. That is the question.

Mr. SANDEFER. That is correct, that is the question. I realize it is a big question.

Senator MOORE. You can certainly see the evils that might flow from the application of a subsidy to this industry.

Mr. SANDEFER. That is correct.

Senator MOORE. Others would have a like reason, of course.

Mr. SANDEFER. Except that you have a natural resource here that is to the interest of everyone. I know the feeling of the small independent operator. I do not know the feeling of a lot of my good friends and your good friends that enjoy flush production, but whether

I had a lot of flush production or not I would still be interested in having plenty of oil and there not being a shortage during a war. I would hate to abandon wells myself that I feel have got oil under them, for the sake of the future. They can never be redrilled.

Mr. Fraser. I suppose even if oil were $50 a barrel there would come a time in any well where there would still be oil, and it would still be uneconomical to bring it out.

Mr. Sandefer. I think Mr. Andrus touched on that the other day. Of course, I cannot imagine oil ever bringing $50.

Senator Moore. The operation of small wells on a profitable basis depends to some extent upon the ingenuity and efficiency of the operator.

Mr. Sandefer. Definitely.

Senator Moore. That is probably the most conducive thing to the continuation of the operation of the small wells. If you just say that the Government will pay you when they reach a time where it is unprofitable, then as Mr. Jacobsen says, you are placing a premium on inefficiency.

Mr. Sandefer. That is not even approached by us.

Senator Moore. I understand, but I mean that could result from that sort of situation. In other words, it could result in a less amount of oil being produced when the demand is high if there is a differential of 50 cents a barrel between a 9-barrel well and an 11-barrel well, for example. It would be more profitable to produce 9 barrels under those circumstances would it not?

Mr. Sandefer. Yes; it could be.

Senator Moore. Now, do you or do you not advocate that a subsidy be provided from the Federal Treasury?

Mr. Sandefer. I do, sir.

Senator Moore. You do?

Mr. Sandefer. Yes. And in so doing I believe that is the only way we can save these reserves.

Mr. Jacobsen. I would like to ask a question at this point, Senator Moore, and I would be glad to have Mr. Sandefer or anybody else here answer the question.

What proportion of the stripper wells of the country belong to the small independent and what proportion to the big companies? I have in mind what Mr. Sandefer has said, and of course it is true that all wells in time become stripper wells, and therefore logically the company that has the most wells will have the most stripper wells. Now, of the stripper wells in the country, how many belong to the small independent and how many to the large companies? Bear in mind they are all against ordinary subsidies. You cannot, of course, have one subsidy paid to one owner and not pay a similar subsidy to the Standard Oil of New Jersey. In other words, to what extent would that subsidy benefit the small operator and to what extent would it go into the big company? Does anybody know what percentage of the stripper wells, or how many of them belong to the big companies?

Mr. Sandefer. Do we have an answer on that?

Mr. Majewski. To expand on that point a little further, that is an interesting point that Mr. Jacobsen makes. What they are urging, as I understand it, is the preservation of 5 billion barrels of reserves, regardless of who owns them. It is not a question of bigness or smallness, it is in the national interest to preserve the 5 billion barrels

of oil. He is not urging that only the small operator get the subsidy; he is urging that a permanent differential be paid for the purpose of preserving for the Nation and the consumer 5 billion barrels of oil.

I can see another good point. These stripper well reserves we are talking about are in areas where the independent refiners have been for years and who are finding it difficult to get crude. If you develop, on a permanent subsidy basis, or on a permanent differential basis, these 5 billion barrels of reserves, it would assure the independent refiner of a source of crude oil for many, many years to come on an even basis.

Mr. SANDEFER. Thank you, Mr. Majewski.

Senator MOORE. I would like to ask Mr. Majewski a question. What does that add up to, the statement that you are making? Does that add up to the proposition that the subsidy is a question that appeals favorably to you?

Mr. MAJEWSKI. Yes; and for this reason: The Congress has determined that the air-mail subsidy was a fitting thing, and out of it, as Mr. Sandefer said, we developed the strongest air fleet in the world, which preserved this Nation in this last war, in my opinion, plus the oil needed to power that air fleet.

Mr. FRASER. Do you think that was the result of a subsidy?

Mr. MAJEWSKI. Yes; that was a result of the subsidy to the air mail. Also, I think the development of the inland waterways was due to a subsidy, for the benefit of the public. Congress has to determine the value of these things on which it will pass, as to whether this 5,000,000,000 barrels of oil is worth preserving as was the air-mail subsidy, the soil conservation, the inland-waterway development, and even the marine subsidy that we paid for many, many years. I think those things are for you to determine, Senator, you and your colleagues. I am in favor of that if it will preserve 5,000,000,000 barrels of oil.

Mr. HARDEY. It might be interesting to the members of the committee to make this observation. Some 3 years ago I was chairman of the committee appointed by the Independent Petroleum Association, which committee functioned actively for about 2 years, studying the subsidy question. It was appointed by President Zook for that particular purpose. It might be interesting to know some of the conclusions that our committee reached and which were reported to our association.

We first examined the subsidy problem as to the feasibility of the industry itself paying a subsidy. We found in the data that we collected that a great many refineries in certain areas like your northeastern Oklahoma district were dependent upon this oil. We found they could not compete in the sale of their products if they were forced to pay to the producer a subsidy themselves. We found also that there could not be any attempt made to have other refineries absorb a part of that cost without a possible violation of the antitrust laws as to the fixing of prices on crude, or fixing prices on crude-oil products. They were all scared to death after the Madison trial in New York.

Our committee reached the conclusion that even though the principle of subsidizing the industry by the Federal Government was distasteful to all segments of the petroleum industry there could be no

workable plan that could be devised to subsidize this stripper production in the public interest, for the purpose of conserving these reserves, unless a plan was worked out by the Federal Government and administered by it, distasteful as it may be to the average independent operator. We made this recommendation to our association after spending some 2 years of exhaustive work in checking up on this subject.

Senator MOORE. That was during the war?

Mr. HARDEY. That was during the early part of the war, when this was made. That was before the subsidy plan was put in by the OPA.

Senator MOORE. It was at a time when we were apprehensive of a supply of oil, was it not?

Mr. HARDEY. That is right. We regretted very much to see the valuable reserves being dissipated on account of the price situation that prevailed at that time. Of course, we will be faced with the same proposition again. The public interest has not lessened in that respect, even though the war is over.

Mr. FRASER. The recommendation to the association was a war recommendation, was it not?

Mr. HARDEY. That study might have been begun even before the war.

Mr. FRASER. I know, but the recommendation was a war recommendation, was it not?

Mr. HARDEY. That is right.

Mr. FRASER. It was not a peacetime recommendation?

Mr. HARDEY. That is right.

Mr. FRASER. Made for times of peace.

Mr. HARDEY. We think it is not a practical working plan to have a subsidy unless the Federal Government administers it.

Mr. FRASER. The recommendation made to the Petroleum Association was not, I take it, a recommendation that was intended to be for peacetime? Or was it?

Mr. HARDEY. I see no difference in the public interest or the public needs in peacetime or wartime, except it might be more acute during the wartime; in principle, though, the need exists just the same in peacetime as in wartime.

Senator MOORE. Do you favor subsidies?

Mr. HARDEY. I favor some workable plan for a subsidy for the stripper operator, Senator, in the interest of conservation, in the interest of preserving this important part of our natural national reserve of crude oil. I hope a plan can be worked out that will do that.

Senator MOORE. The only plan that can be worked out would be to make up the difference between the posted price of oil and the price that is needed to make these small wells profitable to operate; is that right?

Mr. HARDEY. I think, Senator, a realistic price, over-all price for crude oil, which will keep the producing industry in a healthy, solvent condition will go a long ways toward helping the stripper-well men, too, and might reduce the necessity of the amount of subsidy that might be used. The first thing that is necessary is a good healthy situation over the entire producing industry.

Senator MOORE. Do you believe in legislative price fixing?

Mr. HARDEY. No, sir; I just believe in the legislative branch of the Government permitting us, first, to remove the OPA controls and permitting us to have protection, in the form of a national policy adopted by the Congress, from excessive imports and give us the proper economic climate so the industry can exist. A removal of such restrictions will permit the industry itself to remain in a solvent condition and healthy condition. No, sir; I do not want any price fixing by the Government.

Senator MOORE. This price fixing, that is the same thing as a subsidy, isn't it?

Mr. HARDEY. I believe in it to that extent; yes, sir.

Mr. JACOBSEN. If I may, I would like to come back to the question I raised on the ownership of stripper wells. Nobody here seems to know the answer, and I do not either. It ought to be possible to get it. Could not that be got into the record? I would like to see it.

Senator MOORE. What difference would it make?

Mr. JACOBSEN. Well, it makes this difference, that the general picture in the public mind is that the stripper wells generally belong to the little fellows, and I do not think that that picture is true. I do not know the exact figures.

Senator MOORE. Those no doubt could be obtained.

Mr. SANDEFER. The fact we do not own them all does not keep us from needing some help. Mr. Jacobsen, as you recall, we had the discussion before the War Council once. I think the stripper wells are probably owned 40 percent by the independents, if I had to guess.

Mr. JACOBSEN. The subsidy record just shows how many get the subsidy.

Mr. SANDEFER. That is a hard thing to say, Mr. Jacobsen.

Mr. JACOBSEN. I know it can be got. I think it would be interesting to get it into the record.

Mr. SANDEFER. I have no objection to its going into the record.

Senator MOORE. You could make a survey of the producers and determine it in that way, of course.

Mr. JACOBSEN. If we know how many stripper wells there are in the country, it ought to be possible to find out who owns them.

Senator MOORE. Sure.

Mr. JACOBSEN. I would like to ask Mr. Sandefer another question and that is whether it is Mr. Sandefer's position that we should have a subsidy on stripper production no matter what the crude price is? In other words, if the crude price is $1.25 would you say that the stripper wells should get an extra 25 or 50 cents? Suppose the crude price is $2, is it your position that the stripper should still have the subsidy?

Mr. SANDEFER. I haven't got much hope of that, but if the crude price is $2 or $2.25, I think I could do some secondary recovery and exist from my strippers.

Mr. JACOBSEN. Then, don't make it $2; make it $1.50 or $1.75, put the dividing line wherever you want. Is it your position that we should have a differential in favor of stripper production irrespective of the ordinary crude prices?

Mr. SANDEFER. I do not want anything I do not deserve. I do not expect to get the price up to where it is clear out of reason.

Mr. JACOBSEN. That does not answer the question. Is it your position—because I gather from what you said that it is—that we should

have a differential in favor of stripper production no matter what the price of crude is?

By the way, may I say this, that the company I represent is an independent producing company. We have no pipe lines, no refineries, and no filling stations. We have to do business just like the ordinary independent. On a bigger scale than most of them, that is true, but nevertheless we are in exactly the same boat.

My objection to a subsidy arises from several reasons. First, it is, whatever you may call it, as Senator Moore has said, Federal price fixing. We can dress it up any way we want to, but it is still price fixing, and I am against that with all my heart and soul.

Secondly, it will put a premium on inefficiency, no matter where you put the line. If you take a well of a given depth—and I agree with you that the depth is one of the things that determine whether a well is a stripper or not—but put the line wherever you like, 50 barrels or 150 barrels, or suppose the dividing line is 15 barrels and you have a lease and your wells on that lease are producing 14 barrels average daily, by spending a good deal of money on them, putting in new pumping equipment, and so on, you could bring that production up from 15 to 20 barrels, and if you produced 20 barrels you will get, say 50 cents less per barrel, inasmuch as there is only a certain quantity of oil underlying the lease, it would be foolish for you to increase the production on that lease. Therefore, what Senator Moore said, is right. It will tend to lower the production of stripper wells. I am not accusing anybody of deliberately making their wells produce less, or sabotaging their production, but it is just human nature to say, why should you go and spend a lot of money in order to get less money for your oil.

Those are my main objections to subsidizing stripper production. As far as getting the money is concerned, I should like to get it. We want to get as much money as we can.

Mr. Roeser. This proposal by the stripper men is on the wrong basis. This is not a matter of receiving a subsidy, this is a matter, through a conservation-incentive payment to recover four or five billion barrels of oil that is beneficial to the national economy and to national defense.

Now, if anybody would tell me that those 5 billion barrels are not needed to our national economy, or are not needed to our national defense, I would never be heard on the subject again. But you know, Senator, being an oil man, as I know you are, that the cost of producing the small well, in which these reserves lie, is 75 cents a barrel more than the cost of producing flush production under the standard methods of the past. If you had a posted market price for crude oil that would justify secondary recovery—and I think in terms only of secondary recovery—that would permit the preservation of that great amount of oil, which I think we need in our economy, nobody would be in here. But the past 20 years have shown that crude oil sold subnormally to the extent of selling at less than 50 percent of its intrinsic value. That is a condition that I think the Congress should take cognizance of.

Why has this been? A barrel of oil taken out of the ground is irreplacable. You can grow a bushel of wheat next year, or corn, or

oats, or potatoes year after year, but when you take that barrel of oil out, and you consume it, it is gone; you cannot replace it.

I approach this subject simply from the standpoint of conservation of 25 percent of the crude-oil reserves of this country and from no other standpoint. I would not take a subsidy on a small lot and sit down and do nothing with the subsidy. I say that the purpose of this financial payment is to permit men to go out and recapture that oil through secondary recovery, which everyone knows costs from $1,500 to $2,000 an acre. If that oil is not needed in our economy, if it is not needed in our national defense, let us forget the subsidy, but I say this, I say the time might come when four or five billion barrels will be the difference between obtaining our freedom or being a slave to somebody else. Oil won this war, and it won the last war, and will win the next war, and therefore the Congress of this country has definitely got in front of it a responsibility of recapturing every barrel of oil possible in the United States, if it is through the incentive payment or otherwise.

Mr. Hardey. I would like the record to show that I think a proper plan could be worked out in the interest of conserving this oil. I would like the record to show that I am expressing my own opinion and not the opinion of the association that I am president of, because it would never take any action on this subject. I did report the findings that had been made by the committee of the association that I mentioned, but no action has ever been taken by our association on this subject, and I am expressing purely my own opinion on this.

Mr. Majewski. I am not a crude oil expert, but I can see the economics of preserving the small fellow, the independent refiner and producer. Mr. Jacobsen has a fear, and a righteous one, and you do, too, Mr. Fraser, that maybe this oil will go up to $50.

Mr. Fraser. I said that just for argument's sake.

Mr. Majewski. Well, I want to answer that. It will never go above the cost of these unlimited amounts of crude oil out of oil shale, recovery from gas. Many people have introduced in the record the statement that when that is $2.25 you can produce oil from oil shale in an unlimited amount as against natural crude oil. In that event, well, since the record so shows—not put in by the independents alone but by other people—$2.25 seems to be the thing that would recover for you, through secondary recovery, much of this oil that has been spoken about. So you have no fear about it going over $2.25, and $2.25 will recover most of this 5 billion barrels of oil, and that is your limiting factor, it seems to me.

Mr. Jacobsen. Senator Moore, I would like some enlightenment. In one of the papers that was presented, I forget whether by Mr. McClure or who it was, but in one of the papers a day or two ago, figures were given regarding the number of stripper wells abandoned. I think it was in 1944, but I am not sure of the year. Likewise, an estimate was given on the quantity of oil that was left underground, unrecovered in those wells. I do not remember the figures, but I do remember I made a rapid calculation and I figured it was approximately 3,000 barrels per well. That is the way it figured out. That is the oil that was left underground. Now then, with the present insufficient price of crude—and I want to go on record as saying that it is insufficient and we need a substantial increase—if a stripper

well is operated to the point where there is no more than 3,000 barrels average per well left under the ground——

Mr. SANDEFER. That was per acre.

Mr. JACOBSEN. Acres were not given. If it is per well, and that is what the record shows, because I could not make it the maximum per acre because no acres were mentioned, then the darned thing just will not work. Mr. Roeser has just said secondary recovery will cost $1,500 to $2,000 per acre.

Captain FRANCHOT. That is a very low figure.

Mr. JACOBSEN. All right, but if you make it higher then my argument is stronger.

Captain FRANCHOT. $3,500 is more like it.

Mr. JACOBSEN. I do not know what the spacing pattern may have been on those wells that were abandoned. Let us assume it was only 5 acres per well—maybe 10, but let us assume it was only 5—then, secondary recovery for those wells would cost $10,000 each. If it cost $10,000 per well and if there are only 3,000 barrels left underground to be recovered by secondary recovery, then the 3,000 barrels will cost, in secondary recovery installations alone, $10,000. That is $3.33 a barrel, and that is cockeyed economically. The figures do not jibe.

Mr. ROESER. Senator Moore, I do not know that that statement was made, but I will say this for the record, that everybody knows that if they did say 3,000 barrels per well they were mistaken. Whoever made that statement is certainly not in line with the facts.

Mr. FELL. I might be able, Senator Moore, to straighten that out a little. My recollection is that that figure came from the national stripper well report. I remember the figure. I think that they said 3,000 barrels per well under the pumping methods that were being used.

Mr. JACOBSEN. No.

Mr. FELL. Well, they had different figures on the amount of barrels to be recovered.

Mr. JACOBSEN. I am sorry I do not have the table with me, but what it said was that so many wells were abandoned during the year, leaving underground, unrecovered so many million.

Then I divided the number of wells into the number of barrels, and I got 3,000 barrels per well.

Mr. FELL. I think you are right, but I think that was under the method of operation used there. Then it had separate figures on secondary recovery, as to the number of barrels that could be recovered in 25, 50, and 75 barrels per well.

Mr. JACOBSEN. May I finish one thing I was going to say? If—and this, of course, is a big "if." If that figure of 3,000 barrels per well can be taken as an average—I do not know that it can, and I do not know that that figure is right, but if it is correct, and if we have 400,000 stripper wells in the country, then if you multiply the 3,000 barrels per well by 400,000 wells, you get approximately a billion and a quarter instead of 5,000,000,000 barrels of oil left under the stripper wells.

Mr. ROESER. Senator Moore, if you take 300,000 stripper wells and give them 5 acres to the well, and convert that to 3,000 barrels per acre, then you get 4½ billion barrels, and Mr. Jacobsen knows from his own experience that 3,000 barrels per well is an error.

Mr. Sandefer. We have several other witnesses. I would like, with your permission, to let Mr. Whitehill, of Tulsa, who has had considerable experience with secondary recovery and is one of the largest owners of the stripper wells in the Nation, testify.

Senator Moore. Very well.

Mr. Sandefer. I believe he will bring out some of these points, if that is all right.

Senator Moore. All right, Mr. Whitehill.

STATEMENT OF HOWARD J. WHITEHILL, INDEPENDENT OIL PRODUCER, TULSA, OKLA.

Mr. Whitehill. Senator Moore, I did not expect to testify when I left home, so I do not have a formal statement, but my interest in this thing, as a secondary recovery operator, has influenced me to make a statement to you.

To give you a little background: We are operating about 3,500 stripper wells in northeastern Oklahoma and north Texas, and, of course, we are strictly stripper operators. We have no flush production at all. Therefore my chief interest in this question is the matter of price that would justify the recovery of the reserves which underlie this whole property on a profitable basis.

We have been engaged in secondary recovery starting in 1926 with air and gas repressuring, and in 1935 with water flooding. The air and gas repressuring in comparison with water flooding is much less expensive. That method has been applied generally throughout the district in which we operate. Since 1935 a great proportion of the territory has come under water-flood operations.

We have two floods: One which ceased operation last June and one in which the operation is still being continued but is approaching the economic limits. From those two properties we produced and sold to the pipe lines 990,884 barrels, and in the project which was abandoned, when it reached the economic limit, we still had $125,000 of our money invested. That was unrecovered. In the other project, which is still continuing but which hasn't any more than another year's economic life, we still have $79,400 invested. In other words, we produced about 1,000,000 barrels of oil and have in that operation lost in the neighborhood of $200,000.

Senator Moore. That just goes to the question that under the present price of oil you cannot economically operate.

Mr. Whitehill. That is it.

Captain Franchot. How many acres do you produce on?

Mr. Whitehill. About 600, to my recollection. I am not sure of that total acreage.

Mr. Fraser. If those barrels could have been sold for 35 cents more, would you have then made money?

Mr. Whitehill. It would have taken us out. We would not have made much money, but we would have regained our investment, with possibly a small margin. The main question with us is strictly a matter of price, because of our high operating cost throughout that area. It may surprise you to know that our average production per day per man employed is only 10 barrels. We are using a lot of air and gas repressuring and quite a little water flooding.

Captain FRANCHOT. At $1.17?

Mr. WHITEHILL. $1.17 without the compensatory payments.

Captain FRANCHOT. Before the compensatory payment?

Mr. WHITEHILL. Yes. I tried to get a few figures which I think are pertinent to the subject that was discussed this morning. We have no finding costs, because we know the oil is there; it is just the mechanics of getting it above ground. In 1941 our producing cost was 92 cents a barrel. In 1942 it was a dollar a barrel; in 1943, $1.16, and in 1944, $1.29, and in 1945, $1.59.

Captain FRANCHOT. Was that due to your volume decreasing?

Mr. WHITEHILL. The volume of production has decreased some, but it is due largely to increases in labor cost and materials cost. That is about all I have to say.

Mr. MAJEWSKI. Do you think, Mr. Whitehill, that the open posted price, as reflected by the last 20 years' experience, will permit you to recover this oil that is underneath your wells?

Mr. WHITEHILL. Not unless the property should be especially prolific in secondary recovery. Property that produces as little as 3,000 barrels would not be economical property.

Senator MOORE. You mean 3,000 barrels per acre?

Mr. WHITEHILL. 3,000 barrels per acre, yes.

Captain FRANCHOT. This shows 1,666 barrels on one project you cited.

Mr. WHITEHILL. I am not sure as to the number of acres we have.

Captain FRANCHOT. I am surprised that you would attempt that with $1.17 oil. My interest in secondary recovery is mostly in the Bradford field, where we get $3 a barrel for it.

Mr. WHITEHILL. We would not have attempted it if we had any idea it would be as little as that.

That is about all I have to say.

Senator MOORE. All right, Mr. Whitehill, thank you.

Mr. SANDEFER. My next witness is Mr. Emery Carper of Artesia, N. Mex.

STATEMENT OF EMERY CARPER, INDEPENDENT OIL PRODUCER, ARTESIA, N. MEX.

Mr. CARPER. My name is Emery Carper, of Artesia, N. Mex. I am a director in the Independent Petroleum Association and vice president of the New Mexico Oil and Gas Association. I am not a member of the Stripper Well Association. My business up here was largely to try to get the OPA off our necks. We do not know whether we are going to do that or not, but we hope so. I think we all agree on that. One thing we do not all agree on is the inefficiency of the operation if we have a subsidy for recovering oil.

Mr. FRASER. Did I understand you were in the oil business yourself?

Mr. CARPER. Yes, sir; I operate 50 wells that my company owns mostly, and some joint ownership wells.

Senator MOORE. That is in New Mexico?

Mr. CARPER. That is in New Mexico entirely, Eddy and Lea Counties, N. Mex.

Of the number of wells I operate I have about 10 out of the 50 that are classed as stripper wells, of which some 6 are receiving a subsidy.

There is no question but what a subsidy will help to operate stripper wells much beyond their normal operation, and a great deal of oil will be recovered with a differential price in favor of subsidy wells. As a substitute for an adequate price for oil, I am absolutely opposed to a subsidy. An adequate price right now of 50 cents more per barrel than we are getting would maintain stripper wells just as well as the subsidy would. But regardless of the posted price, the time will come when the subsidy advantage will produce a great deal more oil than would otherwise be produced.

I mentioned day before yesterday that I was interested in an association in New Mexico that is known as Loco Hills Pressure Maintenance, which is more or less a secondary recovery project. We spent $600,000 there for compressor equipment and gathering lines. We are stripping the gas, or the oil from the gas I mean, the petroleum, and returning the residue gas to the formation in key wells.

While at the posted price we were faced with closing down the plant unless we received assistance, I was instrumental in securing a subsidy of 17 cents per barrel, which has all been applied to the maintenance of the plant. The operating man says the product does not anywhere near meet the cost, to say nothing about amortization of the plant. Without that we would have had to abandon this plant, to salvage it, pay off our bank, and forget it. But I think we will recover, by maintaining this plant, several million barrels of oil which would otherwise be lost. There are about 180 wells under this plant.

I believe some workable solution could be made that would make a differential permanent for stripper wells. Of course, the independent operator is more or less a rugged individualist. I believe that is the way we have been classed in Washington. We do not want too much Government control, but I am operating under Government control anyway. Practically all of my property is on Federal lands and we operate under the United States Geological Survey.

I cannot see where a subsidy would cost us any oil by sabotaging the wells or the failure to keep up the wells. Very frequently we clean out a well hoping to increase our production, reshooting them, so forth and so on, but about as often as not that work is wasted, because we never get paid back on the work anyway.

In addition to being an operator I am also a drilling contractor and have been in that business all my life. I have been a producer for about 20 years, and about the only way that I can stay a producer is due to the fact that I am a drilling contractor and I can make a little money contracting yet.

That is all I have to say.

Senator MOORE. Thank you.

Mr. SANDEFER. Your next witness is Mr. J. P. Jones, of Bradford, Pa.

Senator MOORE. All right, Mr. Jones.

STATEMENT OF J. P. JONES, BRADFORD, PA., INDEPENDENT OIL PRODUCER

Mr. JONES. Senator Moore, my name is J. P. Jones, from Bradford, Pa. I am a producer. I am also a director of production for the Pennsylvania Grade Crude Oil Association. My purpose in appearing before this committee is to try to point out some of the costs in-

volved in secondary recovery as it is practiced, especially in the Bradford field.

We have heard mentioned here this morning the reserves underlying the stripper-well production of this country. If these reserves are to be produced, part of them will have to be produced through secondary recovery means. In the practice of secondary recovery with water repressuring, it involves some high costs that ordinarily are not involved in primary production. For instance, the producer who starts in secondary recovery must install expensive repressuring equipment. That equipment will cost between $3 and $7 per barrel per day. In other words, if he wants to put in a plant that will produce 1,000 barrels a day, it will cost him between $3,000 and $7,000, depending upon how elaborate the equipment is that he installs. He must redrill his property.

We have found that the most efficient way to repressure the sand is through the five-spot method. That involves pattern drilling of the property and the abandonment of all the old wells on the property and the plugging of them. Ordinarily the old equipment found on the property is not usable for secondary recovery purposes. It is a 24-hour-day operation and you must have the most modern equipment in order to keep the flood moving.

It involves treatment of water. The treatment of that water will cost around 1 cent a barrel for treatment. That treatment sometimes is quite elaborate. I believe I am safe in saying the cost of the water at the well head will range between 2 and 3 cents a barrel. So, if you have a water to oil ratio of 20 to 1, you can see it adds materially to the cost of that barrel of oil which you produce.

We have also found we can do a better and more efficient job by coring our wells, analyzing the input in the producing wells, which would cost maybe $7 a sample. If you strip-core, it will probably cost $500 a well. In some cases that pays good dividends, because we are able to selectively shoot these wells, and, knowing where our open areas of sand are, we can plug them in.

So you can see this secondary recovery involves a lot of high-cost expenditures that are not ordinarily necessary in primary production. If secondary recovery is to be practiced and used in the United States, it will require a substantially higher price than the oil industry has been receiving for its oil in the past.

I think that concludes my statement.

Seantor MOORE. All right. Are there any questions? Do you have any more witnesses?

Mr. SANDEFER. Just one or two more, please, sir. They will be short.

Senator MOORE. All right.

Mr. SANDEFER. Next is Mr. Powers, of Huntington, W. Va.

STATEMENT OF MAURICE POWERS, HUNTINGTON, W. VA., MANAGER, BEDROCK PETROLEUM CO.

Mr. POWERS. My name is Maurice Powers, of Huntington, W. Va. I manage the Bedrock Petroleum Co. of eastern Kentucky, that owns and operates 330 stripper wells. I have been with this same operation since 1920, and our company discovered that field in 1919. I am also

vice president of the Kentucky Oil & Gas Association, and am here today because the representative in Kentucky who has looked after our affairs for so many years died unexpectedly last Friday, and I want to say that we are all saddened that Mr. Schiarella, who represented the State of Kentucky in the Interstate Compact and other associations, could not be here.

Mr. McClure presented our problem to you, and Mr. Sandefer outlined it, and all our troubles in Kentucky are much the same as his. We could not be considered as any border-line efficiency case, because our wells make 9½ barrels of oil per day, and the price received during the past 15 years has not been adequate for proper secondary recovery. We want to see this oil saved in the public interest, and we agree entirely and urge that the OPA control should now be eliminated.

In the State of Kentucky there are 14,300 stripper wells. In 1944 the production from these wells, from the western and eastern parts of the State, averaged less than 1 barrel per day.

We spent many hours at our last meeting of the Kentucky Oil and Gas Association and unanimously resolved in favor of the permanent price differential for these stripper wells, as the same price that has been paid for flush production will not prevent the premature abandonment of these wells, nor maintain the existence of the little independent producer of stripper wells like ourselves.

That is all, gentlemen. I thank you for the courtesy of permitting me to appear.

Senator Moore. All right, Mr. Powers.

Mr. Sandefer. Senator Moore, the next witness is Mr. W. J. Brundred, of Oil City, Pa.

STATEMENT OF W. J. BRUNDRED, OIL CITY, PA., INDEPENDENT OIL PRODUCER

Mr. Brundred. My name is W. J. Brundred. I live in Oil City, Pa.

I just want to touch briefly on the question of the amount of tax the Federal Government derives from oil production, that is, flush as well as stripper production. On midcontinent oil with a breakdown of 45 percent yield of gasoline per barrel the Government receives 28 cents. On a gallon and a half of lubricating oil it receives 6 cents a gallon, or 9 cents. It receives 4½ percent of pipe line transportation, and on the assumption that the pipe line transportation is 45 cents a barrel, it receives, in the break-down of a barrel of midcontinet oil, 2 cents for transportation; or a total Federal tax of 39.3 cents.

The State receives approximately $1.14, at the rate of 6 cents per gallon.

In the Pennsylvania grade area, on a break-down of a barrel, the Federal Government receives 25 cents on gasoline. There is a 6-cent tax on lubricating oil; we take out of a barrel 9¼ gallons of lubricating oil, which makes 55 cents; and pipe line transportation makes another cent; so they receive 82 cents.

Mr. Fraser. Who receives 82 cents?

Mr. Brundred. The Federal Government.

In addition, the State receives over a dollar, and the counties receive a very substantial tax also in ad valorem and other taxes.

What I want to emphasize in this connection is that any permanent price diffierential that the Government might pay would be self-sus-

taining. They are taking in more in taxes than they are paying out in subsidies.

I would like to file that break-down with the committee.

(The break-down referred to is as follows:)

STRIPPER WELL TAXATION

Subsidies on stripper-well production cost the Federal Government nothing, since the Government receives from gasoline, lubricating oil, and pipe line transportation taxes more than they pay out in subsidies. If the subsidy is withdrawn and stripper wells are abandoned, the Federal Government will be out of pocket the amount by which receipts from the above-mentioned taxes on stripper production exceed the sums paid out in subsidies. The States also will lose revenue from the gasoline tax now averaging 6.03 per gallon and which in some cases amounts to more than the amount the producer receives for a barrel of crude oil. In addition, States and counties will lose considerable additional revenue levied in the form of ad valorem, production taxes, and so forth.

Mid-Continent crude

FEDERAL TAX

45 percent yield of gasoline 18.9 gallons at 1½ cents Federal tax	$0.283
1½ gallons of lubricating oil at 6 cents Federal tax	.090
4½ percent pipe line transportation tax estimated at 45 cents per barrel	.020
Total	.393

STATE TAX

6.03 cents average on 18.9 gallons [1]	1.14
Total State and Federal taxes (including county taxes)	1.533

Pennsylvania grade area

FEDERAL TAX

40 percent yield on gasoline 16.8 gallons at 1½ cents Federal tax	.252
9.25 gallons of lubricating oil at 6 cents tax	.555
4½ percent pipe line transportation	.013
Total	.820

STATE TAX

6.03 average on 16.8 gallons gasoline [1]	1.013
Total State and Federal taxes (excluding county taxes)	1.833

First 6 months' 1945 Federal receipts from gasoline, lubricating oils, and pipeline taxes were $264,031,171; monthly average Federal tax receipts, $44,006,028; cost of monthly estimated subsidy payments, $6,000,000.

[1] Average State taxes collected in 50 representative cities throughout the United States as compiled by the Associated Petroleum Industries.

Mr. FRASER. Of course, anything that was taken from the tax moneys to pay the subsidies would not be available for governmental expenditures in other fields.

Mr. BRUNDRED. No. However, it is a tax on oil, and I think it should be returned to oil for the purpose of preserving these reserves.

Then, in answer to Mr. Jacobsen's question about the number of small units in the industry, I am familiar with our situation in Pennsylvania. We have 140,000 wells that produce 60,000 barrels a day, or 0.45 of a barrel per well per day. In my immediate district the

gathering pipe line gathers approximately 8,000 barrels a day. They have 4,700 accounts on their books. That shows the ownership of the small leases. Of course a lot of those, Mr. Jacobsen, are royalty accounts.

Mr. JACOBSEN. I think it is generally agreed that your area is more subdivided into a lot of smaller holdings than others.

Mr. BRUNDRED. That is right.

Mr. JACOBSEN. It would not be representative of the country as a whole.

Mr. BRUNDRED. No; that is possibly true.

Captain FRANCHOT. The fact that Mr. Brundred is here suggests something to my mind. There is one subject that seems to me, having attended all these hearings since last May, has been rather overlooked, and certainly not emphasized, and that is particularly in connection with air and gas repressuring projects, which is a phase of secondary recovery. The success of the water-drive operation has been such that the industry as a whole, who are not in contact with repressuring as we in Pennsylvania are, are inclined to think that water is the big thing. We overlook the almost age-old process in connection with air and gas recovery, air and gas repressuring.

Of course, with the Smithton process that was referred to the other day, that started many years ago, having not been dramatically successful, and in a great many cases having been not successful at all, and with the lack of scientific application of these procedures, repressuring throughout the industry, it seems to me, has had a black eye.

My observation is, in the last 10 or 15 years, particularly in the Pennsylvania fields, and to some extent in the midcontinent fields, these procedures and these techniques have been greatly improved. Within the past year—although I have been tied up with the Navy for 2 years and have not been able to watch it as closely as I did during the last 10 or 15 years, there have been improvements in technology in air and gas repressuring which I think the industry as a whole should know.

It seems to me, in view of the fact that we are going to come up here with a volume which is an encyclopedia of the oil industry, it would be helpful if we had some testimony on that, and I do not know anybody better qualified in the industry than Mr. Brundred to give us some idea of the improvements in technology of air and gas repressuring.

Mr. FRASER. That is, the hearings are the encyclopedia, not the report.

Captain FRANCHOT. The hearings, not the report.

If we could have just a minute of Mr. Brundred's time to tell us something of these improvements, it would be very interesting to everybody. I am particularly referring to the repressuring by air and gas.

Mr. BRUNDRED. We started air and gas repressuring in 1914. It was very inefficient at that time because we merely injected the air in the casing head. We got a very nice increase in production. It came up 400 to 500 percent. After a short time we noticed that the production reached a peak and then started to decline as channeling took place. In other words, the air had a tendency to travel from the point of input to the producing well and cut out a narrow channel. Where we had thought that we were repressuring the entire oil sand, appar-

ently we were only having an air or gas drive along one small channel.

In an effort to correct and thereafter control this bypassing condition, we thought we would try flowing the wells, utilizing the energy derived from the compressed air injected into this sand to accomplish this. We experimented at first with some three or four producing wells which had been opened to atmospheric pressure, equipping the wells quite cheaply with a 1-inch flow string. We found flowing the wells overcame the bypassing condition and has resulted in approximately doubling the production on those wells. There is a tremendous amount of oil in the sand, imprisoned there by capillary attraction of the sand grains, and external pressures must be applied to get the oil out.

Captain FRANCHOT. Mr. Brundred, do you want to touch on the technique of slugging and the intermittent pulsation?

Mr. BRUNDRED. We consider the control of the outlet well is much more important than the input. I think this flowing will be very beneficial in the areas that are not susceptible to water flood.

I would like also to touch for a minute on the question of water flooding. We had a property in Kansas where the production had declined to about 30 barrels a day, where it was not paying expenses. We water flooded the property and have since taken out over 1,200,000 barrels from 247 acres. That is very close to 5,000 barrels to the acre, and the property is still producing in excess of 200 barrels per day.

Mr. MAJEWSKI. Are you making any money out of it, Mr. Brundred?

Mr. BRUNDRED. Yes; on that particular property we made some money, but it required a lot of redrilling and the injection of a tremendous amount of water, which has to be taken out with the oil. It is a costly proposition, which is very difficult to handle at present prices.

Senator MOORE. It is not profitable at present prices?

Mr. BRUNDRED. That particular property was profitable. We are flooding another property now on which we are going to lose considerable money, I am afraid, unless there is a permanent price differential.

Senator MOORE. Are there any further questions?

Mr. JACOBSEN. Yes; I would like to ask Mr. Brundred this question.

As I understand it, it requires quite a lot of costly analytical work in advance to determine whether a certain field is susceptible to a successful application of secondary recovery.

Mr. BRUNDRED. Yes.

Mr. JACOBSEN. If bad judgment is used, you can get into a thing that will never pay out, can you not?

Mr. BRUNDRED. Yes. There is the cost of the cores, taken for the purpose of securing a cross section of the oil sand and determining the amount of oil in the sand, which we can do quite accurately.

Mr. JACOBSEN. And the permeability, and all the rest of it.

Mr. BRUNDRED. Yes.

Mr JACOBSEN. You would not advocate, if any operator starts in on a secondary recovery project based on faulty or insufficient engineering knowledge, and finds that the property fails to pay out, the Government should bail him out, would you?

Mr. BRUNDRED. No. We are asking assistance from the Bureau of Mines, though, to help us develop the technique and to acquaint the small producers in the various areas with any improvement in tech-

nique. I will say this, though: We need higher crude oil prices. None of us likes a subsidy as such.

Senator MOORE. You do not advocate a subsidy?

Mr. BRUNDRED. Yes; I do advocate a permanent differential, but we do not like a subsidy as such. As the price of oil goes up and additional production is developed, overproduction takes place, and the economic pressure from the crude oil that is awaiting a market has in the past lowered the price. What the conditions will be in the future, I do not know. It would be very helpful if we could have a sustained price of oil which would make the recovery of these secondary reserves possible. I do not know whether we can have that without some permanent price differential.

Senator MOORE. Without some price legislation?

Mr. BRUNDRED. Yes; a conservation act by the Congress.

Senator MOORE. Call it by that name.

Mr. BRUNDRED. Yes; conservation payments, not subsidies.

Senator MOORE. It is a better-sounding word, at present at least.

Mr. SANDEFER. Senator Moore, unless there is some other question that some person would like to ask, we have tried to show you, from a geographical view, that this stripper matter is not limited to any one State. We could have had witnesses in here that would have kept you going on and on and on, but it would have been the same story. I am talking about the small independent.

I want to thank you for giving us the privilege of appearing.

Mr. FRASER. It is not your privilege; it is your right.

Mr. SANDEFER. Well, "privilege" is a better word. I agree with you. The chairman of this committee told me I could bring just as many witnesses as I wanted to, but I wanted you to get the picture, and that is the average picture.

This has been a fine hearing. I do want to thank you for the time you have given us, and for the questions that you asked.

Senator MOORE. All right, thank you.

Mr. FELL. Senator Moore, before you close, yesterday you granted me permission to file for the record the seventeenth annual report of the Consumers Cooperative Association, published November 29–30, 1945. I would request that there be printed in the record of these hearings merely pages 8, 10, 11, 12, 13, and 14, insofar as it covers oil. This will show you that they now have 369 producing oil wells. Their chief geological office is in Kansas City, with district offices at Mattoon, Ill., Wichita, Kans., and Midland, Tex. It goes into their refining operation, and they say that the result of their work in production has been fully justified.

Senator MOORE. All right, it will be admitted.

(The matter referred to is as follows:)

[From seventeenth annual report of Consumers Cooperative Association, Kansas City, Mo., November 29–30, 1945, pages 8, 10, 11, 12, 13, and 14.]

OIL PRODUCTION AND PIPE LINES

Affairs of Cooperative Oil Producing Association (COPA) were turned over during the year to Cooperative Refinery Association. Savings of COPA, of $6,065 during the time it operated in the 1944–45 year went to its patron, Cooperative Pipe Line Association.

Launched in the fall of 1940 to provide crude oil for the refinery at Phillipsburg, operations of COPA were more than usually successful, particularly in drilling for oil. However, there was acquired along with refining facilities at Coffeyville,

269 producing oil wells and 104,408 acres of undeveloped oil leases in 5 States. These properties, along with refining facilities, have been operated from the start by Cooperative Refinery Association, thus in effect giving CCA two oil production departments. To end that duplication, COPA assets and equities, including outstanding stock, lease operations, etc., have been transferred to CRA.

369 PRODUCING OIL WELLS

During the fiscal year the oil production department has purchased 68 producing oil wells, has drilled 10 producers and 7 dry holes, and has plugged and sold 6 old wells. It now has 186 producing wells in Kansas, 73 in Oklahoma, 108 in Illinois and 2 in Texas, bringing the grand total to 369. It has 49,762 acres of undeveloped oil leases in Kansas, Oklahoma, Texas, New Mexico, Illinois, and Colorado. It has produced from all sources 1,014,330 barrels of crude oil during the year as against total consumption by CCA refineries of 5,655,647 barrels, exclusive of the refinery at McPherson, or nearly 18 percent of our crude oil needs.

Cooperative Pipe Line Association (CPLA) had net savings for the year of $11,852.12, of which $5,787.50 was from its own operations, the balance being the savings transferred from COPA at the time of its consolidation with CRA. Slightly more than 13 miles of pipe were added to the line, which connects the Phillipsburg refinery with various oil fields in the area, to tie in the Marcotte field in Rooks County. The line, now 134 miles long, carried 1,091,301 barrels of oil to Phillipsburg during the year. Two 25,000-barrel storage tanks were added, bringing total storage capacity to 155,000 barrels at Phillipsburg.

The pipe line system operated as a department of the Cooperative Refinery Association made net operating savings of $30,773. There are 868 miles of gathering and trunk lines, and the system delivered 4,196,662 barrels of crude oil to Coffeyville during the year.

GEOLOGICAL DIVISION

Geologists in the headquarters office at Kansas City are assisted in their work by district office staffs at Mattoon, Ill., Wichita, Kans., and Midland, Tex. Geological studies are the basis of nearly every effort to obtain crude oil except where the oil is purchased by contract for monthly deliveries to our pipe lines. If a pipe line is to be extended to a new field or a new lease, will enough oil be forthcoming over a period long enough to justify the capital outlay? Geologists provide the answer.

Take a CRA producing lease acquired by purchase. Should more wells be drilled on it, or should some of the wells be plugged and abandoned, or should some of them be sold as uneconomic producers? These and a multitude of related questions are referred to the geological division. The valuation studies it makes of producing properties and/or nondeveloped leases offered for sale to CRA are indispensable in getting maximum oil production at minimum cost.

REFINERY OPERATIONS AND RESULTS

Net savings of the Cooperative Refinery Association, refining subsidiary of CCA, were $1,175,541.28 for the 12 months that ended August 31, 1945, after $250,000 had been set aside for the refinery obsolescence reserve. A similar sum for obsolescence was set up the year before.

Plant No. 1 at Coffeyville, Kans., showed a net of $1,060,950 at August 31, 1945. The plant, which has a capacity of 13,500 barrels of crude oil daily, is a complete refinery producing bright stocks, neutrals, and finished motor oil, as well as a full line of light petroleum products. It came into possession of Cooperative Refinery Association on purchase from National Refining Co. at the beginning of the 1944 calendar year. Therefore, the year which ended August 31, 1945, was the first full year the plant has operated under cooperative ownership.

NEW RECORD IN "LUBE" PRODUCTION

Exclusive of wax, heavy fuel oil, refinery fuel, and other byproducts, plant No. 1 produced close to 89,000,000 gallons of refined fuels during the year for member cooperatives of CCA. The "lube" oil plant made new records in production, turning out 37,000 barrels per month, on the average, or 18,648,000 gallons for the fiscal year. Of this volume, 1,652,765 gallons went to member associa-

tions, a gain of 139,680 gallons over the year before. Practically all the remainder went to other cooperative wholesales and to the armed services.

The falling away of wartime demand brings out sharply the need for member associations to push the sale of motor oils from their own refinery.

Plant No. 2 at Coffeyville is the aviation gasoline refinery which was built there by the Federal Government at a cost of approximately $6,500,000. It was leased and operated for the duration by the Cooperative Refinery Association. Construction on the plant was finished in time to permit it to operate 2 months in the 1943–44 fiscal year during which time it produced 4,944,000 gallons of 100-octane gasoline and made net savings of $37,124.55. In the 12 months that ended August 31, 1945, the plant produced approximately 20,580,000 gallons of high-octane gasoline and made net savings of $214,314.40.

DEMAND FOR HIGH OCTANE GAS TO RISE

Following the close of the war with Japan, the octane plant was shut down until such time as the Government can work out formulas for selling or leasing it and other such facilities to operators who have first options on them. In the meantime, we are having a study made of these facilities which will permit us to make the best possible use of them in case we can and do negotiate for them successfully with the Federal Government. In the meantime, new engines for motor cars, tractors and trucks, built to use high-octane fuel will soon be coming from assembly lines. The demand for such fuel will rise. Members may be assured that their cooperative wholesale is watching developments in this area closely and that it will be prepared to move in whatever direction may seem necessary to protect their best interests.

The 3,500-barrel-a-day refinery at Phillipsburg, Kans., produced 24,974,208 gallons of refined fuels for the year, a slight decline from the 25,610,256 gallons produced the year before. Net savings were $275,210, a decline of 22 percent from net savings of $354,040 realized the year before. Several factors were responsible for the drop. Crude-oil costs were higher, the price to CCA was lowered, and there was a smaller quantity of light and higher-priced fuels produced than was the case the year before, even though the throughput of oil was slightly higher. Investigations are being made as to equipment to be installed to increase the percentage of light oil products.

The 1,500-barrel-a-day refinery at Scottsbluff, Nebr., produced 10,540,656 gallons of refined fuels for the year, a decline of more than 2,000,000 gallons under the year before when 12,569,760 gallons were produced. Net savings declined also, dropping from $186,126 in 1943–44 to $45,228 for the year that ended August 31, 1945.

SMALLER THROUGHPUT AT SCOTTSBLUFF

Operations and operating results at Scottsbluff were less satisfactory than in previous years because of a shortage of desirable crude oil during the year. In an effort to alleviate the situation, relatively high-cost sulfur-bearing crude oil was brought in from nearby fields and by tank car from Texas. While the product was fairly satisfactory from a yield standpoint, the sulfur did cause some deterioration in the plant itself which was built to handle sweet crude primarily. While other factors contributed to the decline in savings, the principal one was smaller throughput of higher-cost crude oil.

Five regional cooperative wholesales, including CCA, are owners of National Cooperative Refinery Association, McPherson, Kans., which owns and operates the 17,500-barrel-a-day refinery there. During its fiscal year which ended July 1, 1945, CCA took 35.6 percent of NCRA's output of refined fuels, or 47,549,184 gallons.

It should be noted that in the year under review, CCA produced in refineries which it owns outright or in which it has an interest, approximately 171,768,048 gallons of refined fuels. It delivered to patrons 21,544 carloads of refined fuels of 8,000 gallons each, or 172,352,000 gallons. This means that for the second straight year CCA has met the needs of its patrons for refined fuels from its own facilities. This is exclusive of the output of the aviation gasoline plant which went to the Federal Government.

In addition to helping CCA meet the requirements of its members for refined fuels, the refinery at McPherson made net savings of which CCA's share was $405,825. It was invested in shares of NCRA, as was the case a year ago.

To supply member associations most advantageously this past year, CCA had 24 exchange agreements with 19 different oil companies, including both majors

and independents, which represented approximately 5,000,000 gallons of refined fuels a month. We made shipments from 39 refineries and/or pipe line terminals which had the effect of giving members products from outlets near them at considerable savings in transportation.

Gasoline shipments from our Coffeyville refinery to Des Moines and Omaha via the Great Lakes pipe-line system, which averaged 50,000 barrels per month, enabled associations to use transport service where, in years past, they were required to rely entirely on tankcar shipments. An extension of the Great Lakes line to Sioux Falls, S. Dak., which will be in operation soon, will permit us to better serve all of South Dakota at lower cost than would be possible by tankcar shipment exclusively.

RESULTS JUSTIFY ENTRY INTO PRODUCTION

Results of the year in the refining division confirm again the essential soundness of the decision made 6 years ago on the part of directors and members to move into petroleum production, pipe line transportation and refining. Wartime conditions provided the acid test of that policy. Demand for petroleum products generally outran supply. Without sources of supply under our own direction and control, CCA could not have done an effective job of supplying its members, nor could it have been as effective as it was in contributing to the war effort. Neither would members have realized the relatively high rate of savings return that came to them as a result of owning such productive facilities.

When it is recalled that a share of the savings made at the McPherson refinery are included in the net of $579,114—the savings made by CCA as a wholesale—and that more than twice as much was realized this past year by CCA's refining subsidiary, or $1,175,541, it is proof again of the essential soundness of CCA's revolving fund plan of financing. Had annual savings been paid out in full annually over the past 17 years, CCA most likely would have been ineffective and would have continued to be undercapitalized. Moreover, member associations could not have put the money to work anywhere, as they realized then and still realize, where it would have made them greater returns than it has in productive facilities like gasoline refineries.

That our plan of husbanding our resources has been most effective is admitted by competitors who, in an organized way, are seeking legislation now to compel cooperatives to pay out all savings in the year in which they are made, and to put a confiscatory tax on such savings in the hands of cooperatives. Giving vitality to the cooperative program of production also is the sale of preferred shares of CCA and CRA, the steady rise of the loan capital fund, and our continued adherence to the cash trading program which was inaugurated February 1, 1939.

Mr. Jacobsen. Senator Moore, will you bear with me just 2 minutes longer?

Senator Moore. Yes.

Mr. Jacobsen. I would like to cite a hypothetical example but a true example of how this subsidy will work. No matter where you put the dividing line between subsidized and nonsubsidized wells, you will have the same thing moving up and down.

I have taken a case where wells producing less than 15 barrels a day get a 50-cent subsidy, and those above get nothing. Assuming a man produces 14 barrels per day and the price of oil is $1.25, if you add the subsidy to that, he gets for his 14 barrels a day $24.50.

Now assume that his neighbor has wells that average 20 barrels a day, he gets no subsidy because the dividing line is 15 barrels, therefore the neighbor gets for his 20 barrels a day at $1.25, $25. Therefore that neighbor, or incidentally the same operator, if he increases his own production, for the extra 6 barrels a day, which is nearly 50 percent increase of the figure I mentioned, will be getting 50 cents a day, or 8 cents a barrel, extra.

Now, as I said, it does not make a particle of difference where you place the dividing line; whenever you get production close to that dividing line between subsidy and nonsubsidy, you do put a premium

on smaller production, and it is not fair, in the case I mentioned, to have two operators in the same field, one who averages 14 barrels per day on his production and the other averages 20 barrels per day, and the one with 20 barrels a day gets only 50 cents more per day for 6 barrels of oil in the hypothetical case that I mentioned.

I want to repeat that, in my opinion, the remedy lies in an adequate price for all crude and not a differential for all crude.

Mr. ROESER. I want to call Mr. Jacobsen's attention to the fact that at one time that 14-barrel well was a 20-barrel well.

Mr. MAJEWSKI. Is that all on the stripper wells?

Captain FRANCHOT. No, I have something that I would like to add.

Senator MOORE. Very well, Captain.

Captain FRANCHOT. I would like to make a few remarks and I wish to emphasize the fact that I am speaking as an independent oil producer and stripper oil producer rather than as an officer of the Navy. With few exceptions, the interruptions I have made during the last 4 days have been in my capacity as an independent oil producer, not as a member of the Navy.

I have been engaged, either actively or in the capacity of counsel, as an owner and actually in the field in the oil business for some 43 years, starting back in 1903 or 1904, and most of that time have had to do with stripper production and secondary recovery. The few comments that I have are on points that I do not think have been brought out.

Mr. Jacobsen's question about the number of stripper wells that were controlled by majors suggested a thought to me, and that is this: It has been my observation that the majors abandon stripper wells much sooner than independents do. Now, in that is something to think about. Occasionally, as has happened to me just within the last 2 months, where we have a partner who is a major owning a half interest in some stripper production, they came to us recently and said, "Do you want to buy our interest for just the value of the salvage of the equipment?" We analyzed the situation and, from our point of view, it was a good buy. From their point of view, if they had owned the working interest outright, they would have abandoned it. But we undoubtedly will get many thousands of barrels out of that interest, that we are currently buying for a salvage figure. Where there is a partnership of that kind, the oil is still preserved.

In that same field, which is in Creek County, Okla., I have observed many leases that the majors have abandoned long before they got into what I would call a stripper well status from the independent's point of view.

Mr. FRASER. Do they always try to sell?

Captain FRANCHOT. That is the point I am coming to. I have not observed that the majors offer these wells before abandonment, to the industry, before they carry out an abandonment program, and a crusade with the majors to get them to offer these properties at the salvage value to independents before that abandonment would save a great many thousands of barrels. I have not heard that point brought out, but I think it is something that ought to be borne in mind.

Another thing, no mention has recently been made in respect to royalties on Government lands. A great deal of help can be given to strippers if the royalties were reduced. We have abandoned production in Osage County, Okla., abandoned leases, simply because, with

the one-sixth royalty, we could not go on; whereas if we had a one-eighth royalty, or even a smaller royalty than that, we might have gone on 5 or 6 years producing those properties. So some alleviation of this problem can be achieved if attention is given to the question of royalties on public leases. If you are dealing with an individual, you can tell him you must abandon the lease unless he will let you operate on a smaller royalty. With the Government leases we are bound in most cases by law. I think it is a very important point wherever Government land comes into the question.

As an illustration of how an independent stripper will try to nurse along his production, I can cite instances in my own experience where we would have long ago abandoned certain production if it were not for the fact we have old men who would have had difficulty going out and getting jobs, but by merely continuing the lease and just keeping the lease alive, you keep him from going on a pension, or keep him from going to the county poorhouse. I think that illustrates the fact that the independent operator struggles to keep the production going even though he is just swapping dollars.

Mr. SANDEFER. I apologize for speaking again, but I appreciate the gentleman's bringing out the matter about the purchase of these properties. The reason I did not bring it out is, that is where I got part of my properties, and I was afraid they would not sell me any more.

Mr. SWANSON. Is it necessary for an operator to obtain the approval of the Corporation Commission of Oklahoma before an oil well is abandoned?

Captain FRANCHOT. On the non-Indian situation?

Mr. SWANSON. Yes.

Captain FRANCHOT. You have to report to them, anyway. They have to witness the plugging.

Mr. SWANSON. Do you have to get their permission?

Captain FRANCHOT. You don't have to get their permission, but they send an inspector to see that you plug the property.

Mr. SWANSON. They just have to report it?

Captain FRANCHOT. That is right.

Mr. MAJEWSKI. Senator, yesterday I commented on Mr. Reppert's statement that the OPA was not informed of these various trends which would result in these shortages because of the price policy inflicted by the OPA, and I said I would produce corroborating evidence. It would be a quite lengthy procedure for me to introduce it here, but I can do it, if you choose, by a letter to you, submitting the corroborative documents with the letter, with a copy to OPA, where I will introduce it, document by document, showing that since last April they have definitely been fully advised of these impending shortages which their price policies would create. How do you want me to do that?

Mr. FRASER. It would be better if you could introduce it now, because the subject is very timely, and because if you sent a letter to the committee it would not be published for quite a while.

Mr. MAJEWSKI. I could write the letter this afternoon, to save your time.

Mr. FRASER. Why don't you write a letter and then introduce the letter next Wednesday in this record?

Mr. MAJEWSKI. All right.

The other item I would like to comment on, the last remaining fear of the OPA in suspending completely—not suspending, but eliminating the oil-price controls entirely—is this one, which Petty's Oil Letter of March 16, 1946, called to the attention of Col. Ernest O. Thompson, and the excerpt from that letter to which I would like to call attention is this:

But there is one factor in suspending oil-price controls which has long worried OPA. It is the possible effect of State proration laws on supply and demand which might affect crude prices when ceilings are suspended.

Col. Ernest O. Thompson, in a very brief telegram to Wright Patman, says this:

Our Commission is of the opinion that OPA price controls are no longer necessary in the oil- and petroleum-products line. There are huge surpluses of crude in storage and top-heavy surpluses of gasoline. The only shortage is in fuel and heating oils, and this shortage is due to OPA policy of hitherto unprofitable operating price on these products, which I understand they are correcting so the refiners will turn out those products as needed. There need be no fear of State regulatory authorities reducing production allowables below consumptive demand. Congress took proper care of that when the law approving the Interstate Oil Compact was passed by providing that the President might permit an increase in imports of crude oil any time the State regulatory authorities refused to supply the needs. Naturally the oil-producing States would never cut themselves out of the oil-producing business by inviting imports. Today finished gasoline is running over the tanks and piling up wastefully. I should be glad to come up there and testify before the O'Mahoney committee if you will arrange it and let me know. We are all grateful to you for your splendid work on oil.

Senator Moore. Mr. Faber, I believe, wanted to be heard.

STATEMENT OF LOUIS M. FABER, EXECUTIVE SECRETARY, RETAIL GASOLINE DEALERS ASSOCIATION OF MILWAUKEE, WIS.

Mr. Faber. My name is Louis M. Faber. I am executive secretary of the Retail Gasoline Dealers Association of Milwaukee. I wish to put some remarks into the record relative to how the forgotten man in the petroleum industry is faring under the conditions of today and previous to this.

Mr. Fraser. I think it should appear in the record that Mr. Faber is testifying today instead of next Wednesday because he comes from Wisconsin, and we are running him in here somewhat out of order.

Mr. Faber. Yes; I appreciate that.

I started in the oil business 20 years ago, operating a service station of my own, and I have operated one for almost 12 years. I have been carrying on the dealers' activities for 9 years. I was an officer of the Milwaukee association for 7 years, an officer of our State association, and director in our national association.

Gentlemen, some time ago, starting about 1934, the supplying oil companies started to deliver themselves from the retailing of gasoline. At that time, because of certain Social Security and unemployment laws, taxes, organized labor, they must have found it was better to lease out their outlets. But, gentlemen, in the leasing out of their outlets, that is about all they have done. They have not desired to lose control of those outlets.

Previous to the war, not many of the companies had other items besides gasoline, but in their promotions and plans during the war

period, each company, almost without exception, has a plan of what their stations are going to sell. Now, mind you, there are very few companies in the Nation that are still living who directly operate a retail outlet, and still each one, for the last 3 years, has been making deals with this accessory manufacturer, with that tire manufacturer, with this and that person, arranging for merchandise that is going to be sold through their stations.

Now, gentlemen, they are not their stations when they lease them out. I would like to read a part of one lease that happens to be in my records. They have a paragraph which says:

> None of the provisions of this lease shall be construed as reserving to the lessor any right to exercise any control over the business or operations of the lessee conducted upon leased premises, or to direct in any respect the manner in which any such business and operations shall be conducted; it being understood and agreed that so long as lessee shall use said premises as herein provided, the entire control and direction of such activities shall be and remain with the lessee.

Nowhere, gentlemen, in their leases do they reserve the right to the control of prices, as to whom they hire, what merchandise to sell, when to open and when to close. It is not contained in here, but it is being done, and I think it is being done all over the Nation.

It is just about time that either the supplying oil companies go back into the retail business completely or get out of it entirely. But they have a lease of this type for their protection, because that is what a dealer signs with the company. But what happens after the lease is signed is something else again. It is always by some form of indirection, and it has got down to the point now where some have the nerve to remind the dealer that his lease comes due on April 1 and that it would be better if he does as they say.

We have a particular situation in the Milwaukee area where some company is coercing their dealers, including the manager from the district, that unless they reduce their price to a certain point he will not have a renewal of the lease. This particular company besides has another plan, and that is that when a particular market in their estimation is not doing the way they like to have it do they run several of the stations on the plan of a commission program, and these become key spots in the community where they control the activities of the rest.

Now, this same company during the war period got rid of most of these outlets that they are running on a commission basis, but now, because some of the dealers will not do what they want, they are threatening to return to it. I know that a director of our association, whose filling-station property was sold out from under him, went to this particular company to lease a station, and he was frankly told that they could not give him a lease because he could not be directed.

In indirect remarks made by representatives of the company they have said that they will not be satisfied until the dealer's margin is down to 3½ cents per gallon. The margin for the dealer in the Milwaukee area today is 4.6 cents per gallon on house-brand or regular gasoline. This company's dealers are being forced to sell at a margin of 4.3. It is not pleasant for them, but they have made up their minds that they are going to do the job. In fact, they are going to do the job—or else.

Now, the "or else," I can only see is in the so-called commission-plan stations that they have. Now, these stations that they run on the commission plan are not ones that are being set up to set the pace for the dealers in the matter of merchandising and giving service, because in most instances they are stations that they cannot profitably run, or where a dealer will not run them as they wish.

We go further than that. They are all taking on tires, batteries, and accessories, and a lessee either stocks that merchandise—or else. But in many instances, gentlemen, some of these dealers have possibly been in business 10 or 15 years before his supplying company decides to take on the ATBA plan.

Mr. FRASER. Do the dealers lose money in the sale of merchandise?

Mr. FABER. Yes; they do in many instances. A dealer came to me the other day and said his company insisted on him buying a certain sparkplug at 44 cents. He has been buying them for 15 years at 36 cents, the same plug, from an independent supplier of motor parts. We have others who put merchandise under their own brand name but who hold the bag on the deal. The price generally is lower than the competitive nationally advertised items, but the wholesale price is the same, or even a little higher.

No, the supplying companies are not going to lose any money, they are going to get their rightful part, because they have good cost departments and know what they have to get for them. But the dealer has a price at which he can sell them easily, and that money comes out of his pocket. That is swell merchandising. So much for that.

Another thing I would like to discuss is subsidies on leases and the possibility of an independent dealer trying to run an independent station. The oil industry, through the operation of stations, certainly has become a tremendous monopoly, because it is impossible for an independent to try to lease a station from a private property owner, if the station has any value at all, because a supplying company will come in and overbid the value of the property and finally lease it back to somebody for half the price. But the leases always have to be for a duration, not just for 1 year. They are trying to keep it tied up.

Now, that is unfair to a dealer who owns his own property, because if the rental to the operator that comes in does not cover the value of the price they are paying for the lease, there is a discriminatory margin there, because the man who owns his own property cannot get a reduction in his taxes, his operation cost, and so when these companies go in and buy up these stations, not just, gentlemen, the ones that they lease from a third party or a private owner but the ones they put in themselves, they put them up as a matter of competition. If on one corner there somebody decides to put in a filling station and if the three other corners are empty, the three corners are going to be loaded with stations regardless of whether the community needs them. They know in advance they are going to be unprofitable stations but they put them up, because they are using a part of their marketing profit, their so-called petroleum profit, to carry on their real-estate department. We feel that the real-estate department of any supplying oil company should be segregated from the petroleum end of the business and make it stand on its own feet.

Then, we have another dealer who is a very successful operator, and he will get a lease with a minimum to it but no maximum. They

wish to participate in his profits or success, but they will guarantee themselves on the way down.

Now, these problems are ones that I think it is about time that the Federal Government should take care of, because it is not a local problem, it is a definitely national problem. The Federal Trade Commission, under the TNEC, did investigate it, but for lack of money they cannot make the investigation they need to make. I talked to Mr. Norton the other morning, and he said, "We know the facts; we know what should be done, but it takes money."

Mr. Fraser. Who is this?

Mr. Faber. Mr. Norton, of the Federal Trade Commission.

Mr. Fraser. There is a Mr. Horton.

Mr. Faber. That is right—Horton. He said that such an investigation, to be done properly and do the job that he knows should be done, would cost $150,000.

Mr. Fraser. Do you claim any laws are being violated?

Mr. Faber. By indirection, and it can only be straightened out if a thorough investigation takes place, because no one individual dealer is going to sign affidavits and does not want to become the martyr.

Mr. Fraser. What laws are being violated?

Mr. Faber. The laws, I would say, in many cases, of collusion. I will give you examples.

Mr. Fraser. I mean what Federal laws are being violated?

Mr. Faber. I do not know what Federal laws are being violated. I would say the monopoly law, trying to run the business without the right to run the business.

Mr. Fraser. You mean the antitrust law?

Mr. Faber. I do not know if it is the antitrust law, but it is a monopoly, trying to run a business and set prices without the right to do so.

We have had instances of this type: A certain marketer in our district wanted the price changed and had price signs all ready for the dealer. They were ready to furnish them to them free if they would go down to that price. I have some of those signs.

We had another marketer who wanted a price adjustment. I would like to interject this at this time. After hearing what has been said on State controls, in my estimation, this industry during the winter has had a tremendous overproduction of gasoline, and each one trying to dump it, each company gallonage-minded, and we should have price wars because production was not controlled as well as it could have been in order to meet the demand.

But we have another company who wanted a price change, who had a full-page ad ready to put in the paper, and they were informed that their usual advertising said, "All our stations and dealers," that if they used the word "dealers," we wanted to know if they had permission from the dealer to advertise that price, or if they were going to force the dealer to the price. The ad did not run.

We have one company at the present time which is trying to get the price of gasoline down, who has said to dealers, "If you don't go down, we will run an ad and send it down."

The dealer, the retailer in the country, have been the forgotten men in this thing. The oil companies have got rid of the obligation of the business and still want control. I therefore recommend that if the

Federal Trade Commission needs money, this committee see to it that they get it, to get rid of this inequality of operations.

Senator MOORE. All right. Thank you very much.

Mr. MAJEWSKI. I would like to develop something. This has been a harmful condemnation of the oil industry which I object to, because my company does not do that.

Senator MOORE. He is not charging your company with anything.

Mr. MAJEWSKI. I know, but there are many companies in the Middle West that do not do that. There are mutual cancellation clauses in the contracts that if the dealer does not like it he can cancel the agreement.

Furthermore, if they operate in restraint of trade, why don't they sue them under the Federal statute? If all of these things that Mr. Faber says are true—and they may be in some instances—then he ought to go after those companies. But to make a categorical indictment against the industry and recommend two things, one that leads to divorcement of marketing, even that phase of retail marketing——

Mr. FABER (interposing). I did not say that, Mr. Majewski.

Mr. MAJEWSKI. You are hoping that the Federal Trade Commission will say that, as they have in the Detroit case, which is the screwiest decision that has ever been rendered in the history of man.

Mr. FABER. Mr. Majewski, I said segregation of the real-estate department.

Mr. MAJEWSKI. I want to talk about that. I agree with you. I think that some of the major companies are making bad mistakes in giving their property away for nothing, but when you say all of them do that, I say they do not. I am sympathetic with what you say, but when you say the companies making these leases resort to price fixing, that is not true. Anybody can cut prices any way they like under those agreements, and they ought to do it if they think competition requires it, and if they cannot get the product, come over to me and some of our independents. We want your volume. Competition is there, but don't let us make a categorical indictment of the oil industry without giving us a chance to present evidence to the contrary.

Mr. FABER. The record I think will show, Mr. Majewski, that I said "some oil companies."

Mr. MAJEWSKI. You said "many oil companies over the United States."

Mr. FABER. That is right, but that does not say "all."

Mr. MAJEWSKI. But "many" infers a great many.

Mr. FABER. Another thing I would like to put in the record and that is this: Almost without instances a dealer who——

Mr. FRASER. You mean "almost without exception"?

Mr. FABER. Almost without an exception, a dealer who leases a station from an oil company never gets more than a 1 year's lease. Ten years ago when a dealer took over a station, you could go into it with anywhere from $250 to $500, but today, if he wants to go in there and run a station, he needs $1,500 to $4,000, and it is pretty hard for a man to go in there, and always to be under the fear of a cancellation, because the lease only has a 1-year duration.

Mr. MAJEWSKI. What can the Government do about that?

Mr. FABER. I did not ask you those questions, as to what they could do about bringing your group out.

Mr. MAJEWSKI. I did not ask to be brought out of anything. I ask to be left alone. I will get myself out.

Mr. FABER. But is not an equitable price what you are asking for?

Mr. MAJEWSKI. On what?

Mr. FABER. On crude oil and petroleum products.

Mr. MAJEWSKI. No; I said remove price control from the oil industry, and the oil industry will produce a prolific amount of products where needed and when needed in the proper amount. That is what I have been arguing about all this time.

Mr. FABER. Mr. Majewski, you brought that point up.

Mr. MAJEWSKI. You can pick on me because I am your buddy.

Mr. FABER. We retailers mind our own business, we should be able to put our own tires in, and buy our own accessories; we should not be bound to take just what the companies hand to us and say, "Don't talk about it; don't complain about it." We have been in the oil business for 40 years, and you fellows don't know anything about it. We are just the little fellows and probably we are not big enough to bother with.

Mr. MAJEWSKI. I do not agree with you at all. I think you are an important fixture in the oil business and you ought to fight for the right to live, and that is why I am on your side.

Senator MOORE. Is there anything further?

All right, thank you, Mr. Faber.

STATEMENT OF HERBERT WILLETTS, SOCONY-VACUUM OIL CO., INC., NEW YORK, N. Y.

Mr. WILLETTS. My name is Herbert Willetts, New York City. I am connected with one of the five so-called major oil companies, the Socony-Vacuum Oil Co., Inc. I am located in New York City.

These statements by Mr. Faber come with a little surprise, from the standpoint of my operations. I am connected with the company in its eastern operations. My operations particularly do not cover Milwaukee; but I would like to say on behalf of the company I am connected with, and I might even venture to say from what little I know of the industry in the East, some of the things stated in connection with control—that we do not control prices of our dealers. We have a number of service stations that we lease to dealers. We do not force the dealers to buy TBA. They can buy TBA of any kind in any amount from anybody. There is no compulsion to buy TBA items. They can sell competitive oils, and they do sell competitive oils in many of the stations.

As far as lease renewals are concerned, we will renew dealers' leases; and we do renew dealers' leases, even though that dealer sells other products. I am talking about motor oil, and he can even sell other gasoline.

On rents; we have a policy on rents on stations that the company owns, and we think in terms of those rents as sound rents. They are based on the ability of the dealer. Is the dealer doing business to pay the rent?

There have been times in the past when conditions have changed. We have some stations, and I imagine other companies in the industry have some stations, that we bought many years ago; and maybe condi-

tions in that particular neighborhood have changed, because some of them do, so that maybe we do not get as much rent out of it as we would like to; but we have to base that rent on what the dealer can pay and do business and live in that particular station. The question of rents with us is just giving that dealer a sound rent. It is not a question of getting any price advantage, nor is it used in any way as a price advantage. We lease for more than 1 year in many instances; it is not only 1 year; we lease in some instances for 2, in some instances for 3 years, and in some instances for more than 3 years. As I say, this thing comes with a little bit of surprise. As far as Milwaukee is concerned, I would like an opportunity to check into it, and see, from our standpoint, what we are doing in Milwaukee.

Mr. Fraser. Are you in Milwaukee?

Mr. Willetts. No, sir; I am not. I am in New York. I work along the Atantic seaboard from Maine down to the Georgia line.

As to these statements, to my knowledge in the East I do not see the industry doing that; and while I cannot speak for the whole industry on this particular subject, I can be charitable enough to say in view I do not think this happens.

From the standpoint of my own company, that I particularly do know what happens, I can say that there are no price controls. The dealer can sell the gasoline for a dollar a gallon or 10 cents a gallon, or 5 cents, when OPA hasn't got charge of the prices. He can only sell at top prices, at what OPA permits him; but from our standpoint, that is up to him. He is an independent dealer, and he makes his own way.

I would like to re-emphasize that he sells competitive oils. We know he sells competitive oils. He sells a lot of competitive oils from the Pennsylvania refineries. Those seem principally to be the oils he does sell.

Senator Moore. When you leased him the station, you did not impose any requirement on him to sell your oils?

Mr. Willetts. No; we did not. We try as salesmen to sell him our oil, but he can buy oil from anybody, and he sells oil that he buys from other companies. The same thing with tires, batteries, and accessories. We are not particularly interested in the company selling tires, batteries, and accessories. That is not our business. The thing that we have done with tires, batteries, and accessories is only one thing: We try to complete a line for the dealer to keep him going. We think it is of some value to him. We are not trying to do any tire business, or battery business, or accessory business in this industry. We do not think of it that way. We think of it as completing a line for the dealers who sell our products, and I have heard it said by other dealers who do not sell our products that that same thing happens from the standpoint of their companies.

I would like an opportunity, when this hearing reopens, to secure the information on Milwaukee, to see if there is anything further that might be helpful here. We haven't got it right at the minute, because this thing does come with somewhat of a surprise.

Senator Moore. These hearings will open again, I understand, on Wednesday of this next week. I do not know whether you might be heard at that time or not.

Mr. Willetts. We would like the opportunity, sir.

Mr. Majewski. May I ask a rather direct question of you, Senator?

Senator Moore. Yes.

Mr. MAJEWSKI. Can your committee do anything about that?

Senator MOORE. We are not a legislative committee.

Mr. MAJEWSKI. If you were in the position to do this, we would like to submit a lot of data to you, but it would be a waste of time if you cannot do anything about it.

Senator MOORE. No; we are not a legislative committee; we are only taking testimony here and listening to the members of the industry, to determine what policy Congress ought to take towards the oil industry. It is not a legislative matter at all.

Mr. WILLETTS. There has been a very interesting development, Senator Moore, in connection with the rents during the war. We found in the war that a great many dealers that were paying the rent before the war started could not live very well. The gallonage dropped, and there was a general feeling among dealers for a considerable time in the war that there was going to be little business. We adjusted many, many rents downward, in line with our established policy to try and keep the rents in line with what the dealers could afford to pay, thinking of these stations as individual units, and we did adjust many of them down. That was not for the purpose of price or anything else, that was merely an attempt on our part to keep the dealer in business, giving him a chance to live.

Senator MOORE. All right, thank you very much.

The committee will be in recess until Wednesday, at 10:30 a. m.

(Whereupon, at 12:15 p. m., an adjournment was taken until 10:30 a. m., Wednesday, March 27, 1946.)

[illegible]

THE INDEPENDENT PETROLEUM COMPANY

WEDNESDAY, MARCH 27, 1946

UNITED STATES SENATE,
SPECIAL COMMITTEE INVESTIGATING PETROLEUM RESOURCES,
Washington, D. C.

The special committee met, pursuant to adjournment, at 10:30 a. m., in room 424, Senate Office Building, Senator Joseph C. O'Mahoney (chairman), presiding.

Present: Senators O'Mahoney (chairman), Moore, and Robertson.

Also present: Henry S. Fraser, chief counsel of the special committee.

Appearances: (The same as heretofore noted with the following addition:) William R. Boyd, Jr., president, American Petroleum Institute.

The CHAIRMAN. The committee is now in session.

The representatives of the various agencies and industry groups are properly disposed around the table, apparently ready to participate in the questioning of the witness. Mr. Jacobsen, we are ready to have you proceed.

STATEMENT OF ALFRED JACOBSEN, PRESIDENT, AMERADA PETROLEUM CORP., NEW YORK, N. Y., AND CHAIRMAN, PIWC'S NATIONAL OIL POLICY COMMITTEE

Mr. JACOBSEN. My name is Alfred Jacobsen. I am president of the Amerada Petroleum Corporation, an independent company engaged solely in the production of crude oil and natural gas. It has no pipe lines, refineries, or marketing organization. It operates in most of the Midcontinent, Gulf coast and Rocky Mountain States, and in California. I have been engaged in the oil business for 30 years. I was a member of the Petroleum Industry War Council throughout its existence and was a member of several of its committees, including the committee on petroleum economics. I was chairman of the national oil policy committee of the Petroleum Industry War Council, and was named by the State Department as an oil industry adviser during the negotiations with the British mission to this country regarding the Anglo-American Oil Agreement 2 years ago. I was one of the industry representatives who accompanied the Secretary of the Interior to London last fall when the Anglo-American Oil Agreement, now pending before the Senate Foreign Relations Committee, was concluded.

I should, perhaps, add that the reason I was picked upon to do the summing up of this testimony is that I was chairman of the coordinating committee that was in charge of the preparation of the industry testimony which has been presented to your committee.

The CHAIRMAN. We understand that, Mr. Jacobsen.

Mr. JACOBSEN. I have been asked by a group of oil industry representatives who have appeared before you to sum up the testimony that has been presented. Before proceeding to do so, I should like to say a few words regarding our national petroleum policy, recommendations with respect to which is, as I understand it, one of the tasks of this committee. I should like to make the point that while no comprehensive national petroleum policy has ever been formulated and stated as such by the United States Government, this does not mean that we have been without a policy. A national petroleum policy has been created by a process of evolution during the eighty-odd years of the existence of the American petroleum industry. This policy has made the American petroleum industry pre-eminent in the world, and it has created an industry with units ranging in size from a producer with an output of a couple of barrels of oil per day, or the owner of a country store who operates a single gasoline pump as a sideline, to some of the largest corporations in the world. In rough, general outline the unformulated but effective national petroleum policy can be stated to embrace the following principles:

(1) The industry has been based throughout on private, competitive enterprise;

(2) The industry has operated on the principle of abundance, as evidenced by the facts that the consumption of oil products per capita far exceeds that of any other country in the world, and that the price of oil products is lower than anywhere else, and I might add that the quality is better;

(3) The industry's policy of providing an abundance of oil products at low prices has been implemented, and in fact made possible, over the past quarter century by the Federal Government through appropriate tax provisions relating to depletion and deductibility of intangible drilling costs. These provisions take cognizance of the peculiar conditions and the financial risks inherent in the producing branch of the oil industry, and were designed to encourage the exploration for and the development of new oil deposits. Most of the oil-producing States have in similar manner recognized the special conditions inherent in the oil industry;

(4) The industry has vigorously promoted technological advances in all its branches resulting in constantly increasing efficiency, conservation of valuable natural resources, and the manufacturing of products of steadily higher quality;

(5) The conservation or efficient utilization of our petroleum resources, which include natural gas, with consequent avoidance of waste, has been under the jurisdiction of State laws administered by State conservation agencies, with the sympathetic support of the Federal Government;

(6) The American petroleum industry has become world-wide in scope in all branches of the business—producing, transportation, refining, and marketing—with important benefits to the American economy as well as to the countries in which operations are carried out.

I am sure I speak for the American petroleum industry in expressing the hope that the recommendations which may be made by this committee with respect to the formulation of a national petroleum policy will be compatible with and in furtherance of the general policies already established in practice, as outlined above.

With regard to the summing up of the testimony presented before this committee, I shall, with your permission, do so in general terms and without repetition of any portion of the great amount of statistical and other factual information which has been introduced into the record. Assuming that it meets with your approval, I shall take up the testimony in the same sequence in which the various subjects were dealt with before the committee.

CARTELS IN RELATION TO PETROLEUM IN WORLD TRADE

The term "cartel" is used very loosely and without any clear definition, but for the purpose of this discussion we may perhaps take it to mean any artificial or strong-arm interference with free competition, whether enforced or sponsored by government or private interests. Evidence was presented before this committee to show that such restrictive measures are exceedingly common and are enforced in a great many foreign countries. They take a great many different forms. The reasons which these countries give for enforcing or encouraging these restrictive measures are many, among them the desire to conserve foreign exchange, the promotion of national defense, the increase of employment, the augmentation of internal revenue, the protection of domestic enterprises, or just the general totalitarian idea that the government should control all important business.

The Chairman. May I interrupt you, Mr. Jacobsen?

Mr. Jacobsen. Yes, sir.

The Chairman. Your definition of "cartel" seems to include, first, the cartel as we have generally known it, namely, a combination of a group of operators, with or without government participation.

Mr. Jacobsen. Yes, sir.

The Chairman. But do you also include any sort of artificial interference with the industry, whether conducted by a group or not?

Mr. Jacobsen. Quite right.

The Chairman. For example, if a single force, the government, for example, should undertake to dominate any industry, that would not be a cartel, as I see it. If a single individual or a single corporation should somehow acquire the power to dominate, by directive or otherwise, that would not be a cartel. The cartel, as was developed, I think, in the testimony before this committee, is the organization of a group of operators, with or without government participation, to set up control of an industry.

Mr. Jacobsen. Government control.

The Chairman. Government and private control.

Mr. Jacobsen. Yes.

The Chairman. Do you agree with that?

Mr. Jacobsen. Well, of course, it is all a question of definition of "cartel." In a good many foreign countries, as the evidence presented before you shows, the government has made the refining and/or marketing of oil products a national monopoly. Then in some places the governments themselves, through governmental agencies, do the marketing and in others they use the existing organization of private companies, some of them domestic and some of them foreign, and they tell them what to do. Even though in a case like that there is only one dominating power, namely, the government, I would still classify that, for the purpose of my paper, as a cartel.

The CHAIRMAN. Where the government is imposing a rule upon the industry?

Mr. JACOBSEN. Yes.

The CHAIRMAN. I do not think that that really is what is understood, in general discussion, as a cartel. For my own part, I would like to clarify my own thinking upon that. The cartel, as it has emerged, was an organization of operators by which these operators, without regard to government, imposed their rule upon a particular industry.

To state it in another way, it was a method whereby industry or commerce was dominated and privately regimented, without authority of any government or any people. Then sometimes, in self-defense, governments have come in to participate. In other situations, as in Germany, where the cartel has developed through a business organization itself, the government came in and took over, and using the same techniques that had been developed by the private group, imposed governmental regimentation. Then there are the other cases where government, for the purpose of encouraging the development of a particular industry, conserving exchange, or doing any of these things you have mentioned, has undertaken to step in and tell industry what it may or may not do.

Mr. JACOBSEN. Then, Mr. Chairman, you do not consider it a cartel, where the government steps in and tells industry what to do?

The CHAIRMAN. No; that is not a cartel.

Mr. JACOBSEN. Right.

The CHAIRMAN. I just wanted a clear definition.

Mr. JACOBSEN. Right.

The CHAIRMAN. That is government interference.

Mr. JACOBSEN. Right.

The CHAIRMAN. I want to make clear the distinction between private government in industry through private agreements and public government of an industry by public action.

Mr. JACOBSEN. Right.

The CHAIRMAN. Now if it brings control without the authority of the people who are controlled, that would be to say not only the persons who are in an industry, or who want to get in an industry, but also the consumers, then it is not, as I see it, in accordance with the American theory of free economy and free government.

Mr. JACOBSEN. That is right. Sometimes I have seen the expression used of private cartel and governmental cartel. That might perhaps cover the two points.

The CHAIRMAN. That is right.

Mr. JACOBSEN. What you do not consider a cartel, Mr. Chairman, is what is frequently referred to then as a governmental cartel. In other words, where the government, for instance, decides for any one of a number of reasons that appear good to them, that the oil industry should be controlled, the marketing of oil, the oil prices should be controlled by government, then they lay down quotas, or in any way they want to do it, in respect to the importation of oil or sale of oil; that is referred to as a governmental cartel. Whereas, in the case where companies get together among themselves, or with the government, that becomes a private cartel, that makes a cartel with the government and private companies combined.

The CHAIRMAN. Let me give you an example of what I have in mind outside of the petroleum industry. When the Governments of Holland and Britain entered into an agreement for the production and distribution of rubber, that was a governmental cartel.

Mr. JACOBSEN. Right.

Mr. ENGLAND. Mr. Chairman, we might say there are four restrictions that these private cartels usually enforce: They fix prices; they control production; they frequently control technology; and they allocate distribution, even as between different companies, certain companies agreeing not to sell in the United States and others agreeing not to sell in Norway, for example.

The CHAIRMAN. They are usually the objectives of this type of organization.

Mr. ENGLAND. Yes, one or all of them.

Mr. JACOBSEN. Well, just to clear up the thing, Mr. Chairman, I might perhaps mention a case, a borderline case which can easily occur. Assume in a certain country two companies are engaged in any business, say the oil business, they get into a price war, they keep cutting prices, keep advertising more and more, and they lose money in it. Then after they get tired of losing money, one company may have two-thirds of the business and the other one has one-third. Then you will frequently find that they will simply stop fighting. There may be no written agreement, there may be no cartel agreement, they just tacitly sit down and accept the situation, because they do not want to go on losing money forever. If you take an extreme interpretation, that might be called a cartel. If you are more liberal-minded about it, you might say, well, you cannot expect them to go on losing money forever.

The CHAIRMAN. I would not regard that as a cartel.

Mr. JACOBSEN. All right. [Resuming:]

The witnesses who appeared before this committee made it clear that the American oil industry does not want these restrictive measures or cartels. They do not want them for the good and legitimately selfish reason that they can do better without them. The American oil industry has amply proved its ability to compete in the world market and more than hold its own. In countries which enforce cartels, however, it is not a question of what the American oil industry would like, but of the conditions they have to face. The solution which the American companies would prefer would be to see such countries persuaded by our State Department to open up their oil markets to free competition. If this solution is not feasible, the companies will in many countries have only two courses open to them, (*a*) conform to the particular type of restrictive regulation or cartel in force in a given country, or (*b*) retire from business in such country. In the last analysis it will be for the American Congress to say what our national policy should be in this respect. I should like, however, to point out in the first place that a decision in this regard will affect not only the oil industry, but most other American industries engaged in foreign trade, and in the second place, that if the decision be that American companies must not engage in business in such countries, we shall actually play into the hands of our foreign competitors and shall, to some extent at least, be placing a premium on the establishment of cartels abroad. We shall be providing our foreign competi-

tors with an unfailing method of ridding themselves of troublesome American competition. If it becomes known that the imposition of any regulations which can be considered as cartels will mean the immediate and automatic elimination of American competition, we must expect our foreign competitors to use their best endeavors to convince the powers that be in the foreign country of the advantages of establishing a cartel.

Such abandonment of our long-established foreign trade would not only have a bad effect on our domestic economy, but would adversely affect our national security. The war just ended has proved the great value to our armed forces of oil installations constructed by the American petroleum industry in many parts of the world and of an organization of American citizens thoroughly acquainted with foreign conditions.

Keeping in mind, as I said above, that a decision on the question of abandoning American operations abroad will not only affect the oil industry, but practically all other American industries engaged in foreign trade, it is evident that the decision will have a direct bearing on the important question of American employment and trade.

The CHAIRMAN. May I interrupt to ask whether, in your opinion, the Government of the United States ought to have notice of any action by an American corporation abroad by which that American corporation enters into any sort of an agreement with a foreign government?

Mr. JACOBSEN. Yes, I can see no objection to that, if the wording be wide enough. In other words, if it be not necessary for them to give notice on every little utterly insignificant arrangement that they have. If a means can be found of confining this class of arrangement to those that are important enough really to warrant attention by the American Government, I would say that that would be entirely proper.

The CHAIRMAN. The distinction that develops in my mind is this: Any corporation should be permitted, in my judgment, if it is properly organized, to have the same liberty of contract that an individual citizen of the country should have.

Mr. JACOBSEN. Right.

The CHAIRMAN. Wherever it operates.

Mr. JACOBSEN. Right.

The CHAIRMAN. But when the corporation becomes so great, by reason of its assets and its economic power, that it can sit down as an equal, or almost an equal, with a government and enter into negotiations for the establishment of commercial policies, then the Government of the United States should be fully advised of that.

Mr. JACOBSEN. I would personally agree with that as entirely fair and proper, with the proviso that I have mentioned, that it be limited to matters that are of sufficient importance.

The CHAIRMAN. Well, of course, we would not want to have the corporation notify the Government——

Mr. JACOBSEN. Every time they open another filling station.

The CHAIRMAN. Yes, or buy an office building, or something of that kind.

Mr. JACOBSEN. That is right.

The CHAIRMAN. The normal functioning of commerce, which the individual would have the right to engage in without notifying the

Government, and I see no reason why corporations should not have the same right.

Mr. JACOBSEN. There are representatives here of some of the large companies that do operate abroad, and I wonder if it would be all right to ask if any of those gentlemen would like to express a different opinion?

Colonel WRIGHT. Mr. Chairman, could I ask you if the first part of the statement you made also applies to the Army and Navy, which are governmental agencies?

The CHAIRMAN. I think the Army and Navy would act in accordance with Government policy, and Government policy would be formulated, in the last analysis, by Congress.

Colonel WRIGHT. Yes, sir.

The CHAIRMAN. But I would not think that either the Army or the Navy would want to act as an independent agency.

Colonel WRIGHT. No, sir; I did not mean that. But you said, Mr. Chairman, you felt that the company should be allowed to purchase in the open market on a free and competitive basis. Abroad we cannot do that. For instance, in France right now we have to buy what the French tell us to buy.

The CHAIRMAN. I did not say anything about purchasing.

Colonel WRIGHT. I thought that is what you meant.

The CHAIRMAN. No; I meant engaging in the business. You are a consumer. We are dealing with a business operation.

Colonel WRIGHT. I misunderstood you.

Mr. JACOBSEN. Well, Mr. Chairman, as nobody has said anything, I suppose we can assume they agree with the views expressed.

The CHAIRMAN. The opportunity for expression was not altogether clear. Let us wait for a minute. Does somebody care to volunteer anything? [No response.] You know the old saying, "Speak now or forever hold your peace." Well, of course, that does not exactly apply, because in this committee the door is always open.

Mr. JACOBSEN. Yes, sir.

Mr. FRASER. And there is no duty on the part of anybody to speak.

The CHAIRMAN. No; of course there is no duty on the part of anybody to speak.

Mr. JACOBSEN. But he is foolish if he does not. [Resuming:]

If the decision be that, much as we dislike all measures restrictive of free competition, and anxious as we are to see them abolished wherever we can bring our influence to bear to that end, it is contrary to our national interests to abandon all of our foreign operations in countries where such operations are subject to cartel arrangements, then I trust you gentlemen will agree that American companies should be clearly allowed to operate abroad under such conditions without any fear of prosecution under our antitrust laws. Considerable discussion on that subject took place before this committee, during which it was brought out that to date no prosecution of any American company has taken place based on operations abroad under conditions such as those here mentioned. At the same time, however, widely different views were expressed by responsible Government representatives with regard to the liabilities assumed under our antitrust laws by companies

operating abroad, and I trust this committee will agree that American companies in their foreign operations are entitled to definite assurance that they will be free from any threat of prosecution under our anti-trust laws in operating abroad in accordance with the laws and established customs of the countries in which they operate.

SOURCES OF PETROLEUM IN THE UNITED STATES

The second subject on which you heard witnesses related to sources of petroleum in the United States. With regard to the ability of this country to supply our future needs of oil products, you heard different views expressed. One was to the effect that we have always found all the oil we needed in the past, and that we shall therefore also be able to do so in future provided a remunerative price is established for crude oil. Another opinion voiced before the committee was to the effect that our having found plenty of oil in the past affords no guarantee for the future; that the oil already found and used up is no longer there to be discovered; that the discovery of new fields the last several years has fallen drastically short of our consumption in spite of an energetic exploration program, and that this trend promises to continue. In support of the former theory your attention was called to the fact that in spite of unprecedentedly heavy production our total estimated proven reserves (more than 20 billion barrels) have actually shown an increase from year to year, but in support of the second theory, it was pointed out to you that the increases in our proven reserves were accounted for by extensions and revisions of estimates of reserves of old fields, rather than by the discovery of new fields. Evidence was also placed on the record showing that on numerous occasions since 1908 many competent authorities had predicted a rapidly approaching oil famine, all of which predictions had been proven false by new and prolific discoveries.

I do not think that the fact that we have always found plenty of oil is of itself any guarantee that we will always do so in future, nor does the fact that many previous pessimistic forecasts have been proven false necessarily mean that all future pessimistic estimates will meet the same fate. On the other hand, the fact that the estimated ultimate yield of the new fields discovered the last few years has fallen short of our consumption during those years, does not mean that we are facing an oil shortage in the immediate or in the foreseeable future. In the first place, the discrepancy between new discoveries and current consumption will not be nearly so great as appears on the surface for the reason that—as always happens—some of the newly discovered fields will prove ultimately to be much larger than originally estimated, and will in future contribute their share of the increase in reserves due to extensions and upward revisions of estimates of old fields. Furthermore, geological evidence was presented to you showing that there are still in this country enormous areas underlain by rocks capable—under favorable geological conditions—of producing oil, which have not yet been fully explored by the drill. It is true, of course, that the areas which were generally considered the most favorable have been explored first, but that does not in any way preclude the possibility that very large accumulations of oil may be found in areas of the country which so far have been barely scratched. Likewise, in many places even within the areas which have been subject to

quite heavy exploration, there are still possibilities of finding very large quantities of oil of the type known as stratigraphic accumulations.

Another source of additional oil supplies is represented by technological advances in many forms, such as greater drilling depth, improved methods of recovery, pressure maintenance, recycling, secondary recovery, improved electrical logging of bore holes for detection of oil strata, and so forth. Obviously any additional oil which improved technology enables us to bring to the surface is for all practical purposes just as much an addition to available reserves as new discoveries. It is true that the increasing difficulty of finding oil, the deeper drilling as well as most of the other technological advances, mean increased cost, but it is also a fact that crude oil prices have been frozen at an unduly and disproportionately low level, and that a relatively small increase would go far toward offsetting these increased costs as well as stimulating both exploration and recovery.

In testimony placed before you the justification for a price increase was based not only on the general increase in the cost of labor and material, and on the much higher cost of deeper drilling, but also on the steadily increasing replacement cost of oil, the point being that we are selling at the present low price the oil resources which were found in past years when the cost of finding and producing was lower, and that the oil now being sold cannot be replaced at a cost which will permit continued operation on the present basis. Until the granting of the entirely inadequate increase of 10 cents per barrel a few days ago, OPA has consistently refused to allow any general increase in the price of crude oil, and has refused altogether to consider the element of higher replacement cost, although I am informed they have given weight to replacement costs in some other industries. However, regardless of OPA's attitude, the fact is indisputable that the cost of replacement has been and steadily is rising substantially for the industry as a whole, and this rise in cost will require recognition in price if we are to find and produce the oil we shall need in future, and if we are to have a healthy and vigorous oil industry.

Mr. Fraser. Mr. Jacobsen, when you say the OPA, according to your information, has given weight to replacement costs in some other industries, do you mean extractive industries?

Mr. Jacobsen. I do not think they were extractive industries. If you ask me what industries they were, I could not say, but I can get the information. I do not, however, believe that they were extractive industries. [Resuming:]

Evidence was placed before you regarding the very large reserves of natural gas existing in this country, both in so-called dry gas fields which produce only gas, and in the form of gas produced with oil. In considering our oil resources gas must be taken into account, not only because it serves the same purpose as fuel, but also because it is now a practical possibility to convert natural gas into gasoline, so that gas reserves can actually—to some extent at least—be considered as the equivalent of direct addition to our oil reserves. Likewise, large quantities of potential oil reserves are represented by oil shales, and virtually unlimited oil resources are available in our enormous supply of coal which can now be converted into oil at an estimated cost which makes this technological advancement definitely a commercial proposition. Dr. Robert E. Wilson, who appeared before you in the hear-

ings on the subject of "Petroleum Requirements—Postwar," gave interesting information in regard to these sources of potential oil supply, and with your permission I shall refer to this matter again later.

To sum up, I think it can be fairly said that in spite of the declining rate of new discoveries in evidence during the last few years, we need have no fear of an oil famine or even an oil shortage in the foreseeable future provided the domestic producer receives a proper price for his oil. Even if the declining rate of discovery should continue, a very substantial volume of new oil will be discovered each year, and in the meantime continuing advances in the technology of finding, producing, and refining oil will enable us to utilize to greater advantage the supplies we do have. In the meantime, further substantial advances in the art of converting natural gas and coal into oil can be definitely expected, and in addition to these resources within our own country, we have at our disposal enormous quantities of oil under American control in various parts of the world, which can be imported into this country as and when it may be needed to supplement our domestic supply.

A considerable volume of testimony was presented to you on the subject of oil exploration and production on land owned by various agencies of the Federal Government, principally the Departments of the Interior and Agriculture. It was pointed out to you that Federal land holdings have vastly increased during recent years, principally through acquisitions by the Department of Agriculture, and that laws and regulations now in force are such as to hinder instead of promote the development of the potential oil resources underlying these lands. Specific instances were given of some of the many ways in which such development is now being hindered or actually made impossible. Recommendations were made to you that all acquired lands should be sold when no longer needed for the purposes for which they were acquired, and while retained by the United States should be open to leasing where the surface use is not inconsistent with mineral development. It was also recommended that requirements such as the one by which the Department of Agriculture when reselling acquired land for farms must reserve three-fourths of all minerals, be abolished. It was recommended that the leasing of all federally owned land be concentrated in the Department of the Interior, and that the leasing law and regulations be liberalized to promote development. The lease form as well as the regulations now in force are very undesirable, and it was recommended that the royalty rate be changed for one which will not restrict but will foster extensive exploration.

One of the serious objections to the present lease form and regulations is that the oil operator is entirely in the hands of the Department of the Interior in regard to leases on the public domain. The lease form is shot through with phrases such as "as the Secretary may direct," and the lessee must agree blindly in advance to abide by all rulings "now or hereafter in force." In other words, the operator does not know what commitments he takes upon himself. Even the rate of royalty can be arbitrarily increased by the simple device of the Secretary of the Interior assigning a higher value to the oil or gas produced than the one which the operator is able to secure. The fact that on the whole, and in the great majority of cases, the Department of the Interior has not made use of the many arbitrary powers

given it under the present lease form, does not change the fact that such arbitrary powers are there to be used any time the Secretary may see fit to do so.

In contrast to the restrictive policy followed by the Federal Government in the development of the public domain, testimony was placed before this committee regarding the policy followed by the State of New Mexico. New Mexico has extensive land holdings and through a wise and practical leasing law, lease form, and regulations, has secured the development of these State-owned lands at a relative rate many times as high as that of the Federal Government.

A bill now pending in the Senate, introduced by the chairman of this committee and Senator Hatch, will, if adopted, bring about substantial improvements with regard to the leasing and development of the public domain, but the bill does not go as far as we should like to see.

The testimony presented before this committee by Mr. A. C. Mattei contained specific suggestions and recommendations with regard to a new leasing law.

Mr. Fraser. I might say the volume of those hearings to which you just referred, in regard to sources of petroleum in the United States, is actually out now, and our office is mailing copies to the various witnesses and persons on the mailing list. Copies are also procurable from the Government Printing Office, as Senator O'Mahoney announced the other day.

AMERICAN PETROLEUM INTERESTS IN FOREIGN COUNTRIES

Mr. Jacobsen (resuming). Testimony was presented before this committee showing that the American oil industry has been very aggressive and on the whole very successful in its operations abroad. I say "on the whole" for the reason that information was also given to show that many individual enterprises had been very costly experiments. You were shown that American companies abroad operate in all branches of the industry—producing, transportation, refining, and marketing—and also that American companies produce and refine oil in one foreign country for importation and sale in another. Particulars were given to you regarding the very substantial oil resources developed by the American petroleum industry abroad, particularly in northern South America and in the Middle and the Far East.

These developments have been exclusively by private American enterprise in competition with the nationals of many foreign countries. The advantages to the United States in peace and in war have been many. Many American citizens have found remunerative employment abroad, American labor has been employed in the manufacture of the vast quantities of material and equipment required in the foreign operations, American investors have benefited and, last but not least, the Bureau of Internal Revenue has had its usual cut. Information was given you regarding the great value to the Allies during the last war of having at their disposal in many parts of the world installations previously put up by American oil companies and of having available Americans with thorough local knowledge of conditions, language, and so forth, who could be promptly incorporated

into the Army or Navy or who could serve these forces in a civilian capacity.

The advantages of these foreign operations of American companies were not, however, one-sided. Information was placed before you regarding the great benefits derived by the foreign countries from these operations in the fields of public revenue, technology, raising of the standard of living, increased employment, and so forth. This has been particularly true in the field of exploration and oil production. The areas of foreign countries in which these operations have been conducted have to a large extent been practically undeveloped, and the oil companies have at their own cost constructed highways, telephone and telegraph lines, public service utilities, port works, water systems, wharves, and so forth, and have built entire communities with schools, hospitals, recreational facilities, and so forth. They do not claim any particular credit for doing these things and they do not claim they do them from purely philanthropical motives. They undertake these enterprises because they are necessary or advisable in developing the oil resources of the country, but the fact remains that the advantages mentioned do accrue to the country in which the companies are operating, as a direct result of their work.

I might add there is another advantage, namely, it brings demand by the nationals of those countries for a great many American products that have no relation to oil. The nationals of the countries see the way Americans dress, eat, and so forth, and they want some of the same kind. It creates a demand for American products generally.

The CHAIRMAN. I think that is a very important point, Mr. Jacobsen. As you have indicated here, some of these activities of such corporations partake of the nature of public works done in this country by the Government.

Mr. JACOBSEN. Right.

The CHAIRMAN. In other words, this is an illustration of how it sometimes comes about that an organization can grow so large that it actually exercises functions which are normally to be considered as the function of the Government.

Mr. JACOBSEN. Right. Of course you appreciate, Mr. Chairman, that those foreign governments are exceedingly happy to see that happen.

The CHAIRMAN. Oh, yes. They would not be able to do it themselves.

Mr. JACOBSEN. Quite right. Another thing that happens is that in many of those countries the land surveys are exceedingly poor. The oil companies, again for entirely legitimate selfish motives, spend large sums of money surveying the country, and then, of course, the maps go to the Government and the Government saves millions and millions of dollars in that respect. The point that I mentioned, of helping create a foreign market for American products of all sorts, is an important one. [Resuming]:

It goes without saying that operations under these conditions are extremely costly and that risks of very large losses are inevitably involved. Some interesting figures were given by Mr. C. W. Hamilton on this score relating to the investments which in some cases have been necessary before any return can be realized. Mr. Hamilton spoke of operations by several companies in eastern Venezuela where during a period of 15 years they put up a total of $47,000,000 before the first barrel of oil was put on board tanker for export. As another case, Mr.

Hamilton mentioned the Barco concession in Colombia on which a total of approximately $60,000,000 was spent before the first barrel of oil was loaded on board a tanker.

You will recall that representatives of both the Army and the Navy appearing before this committee stressed the importance from their respective viewpoints of foreign operations in various parts of the world by the American oil industry.

Information was placed before this committee showing that in their foreign operations American companies have not always been entirely free agents, but, in many cases, had to build refineries which were not economically sound, and which could only operate profitably with artificial protection such as high customs duties on refined products, import restrictions, exchange control, licensing procedures, and so forth. In such cases the companies have had to comply with what foreign governments have considered to be in their best national interest. In some cases, American companies operating abroad have found themselves in this dilemma: A foreign country producing crude oil is anxious to have as much of it as possible refined within its borders, and it enacts measures to bring that about. On the other hand, another foreign country with no crude production of its own is anxious to develop a refining industry of its own, and therefore places a prohibitive import duty on refined products with no duty on crude.

Of course we have the same thing in a smaller way in this country. The States that produce the oil generally like to see the oil refined within their States. In fact, it goes down even to smaller subdivisions than States. If you find an oil field near a small town, they like to have a refinery in that town also. It is perfectly natural. It happens in the small communities, and it happens in the State, and in the countries.

Mr. Fraser. It is natural, but it might be unprofitable.

Mr. Jacobsen. Definitely, and uneconomical. (Resuming:)

Witnesses appearing before you testified to the increasing nationalistic trend all over the world, and especially in Latin America, which not only places serious obstacles in the way of further extensions of American operations abroad, but in many cases makes it impossible for American companies to maintain the business built up in such countries over a long period of years. In some cases this tendency has gone so far as actual confiscation or expropriation of American properties. In other cases, conditions have been made so difficult that American companies have had to sell out to local interests.

Particulars were given to you regarding the serious difficulties presented by exchange controls in various countries which have prevented American companies selling oil abroad from turning their foreign currency into dollars for transfer into the United States. These difficulties were accentuated during the war, but were in evidence in many countries also before the war, and of course right now it is worse than ever, during the transition period.

Considerable information was given to this committee on the subject of diplomatic support of American oil companies in their foreign operations. Particulars were given in this respect with regard to a number of individual countries. It was shown that the diplomatic support at times has been most energetic, helpful, and valuable, as in Iraq and the Netherlands East Indies, and at other times has been ineffectual, to say the least, as in the cases of Mexico and Bolivia.

You were informed that it is now a matter of regular practice for oil companies operating abroad to keep in close touch with the State Department and to keep it generally advised of their foreign activities. That, Mr. Chairman, would incidentally fit in quite well with the point you mentioned a moment ago regarding any important arrangement between a foreign country and an oil company.

The CHAIRMAN. That is right.

Mr. JACOBSEN (resuming). I might perhaps remind you that Gen. H. L. Peckham, who appeared before you representing the Army, stated that "American nationals should be fully protected by our Government in the development of their legitimate enterprises in the Middle East and other foreign fields. They should have the assurance that they can compete on equal terms with other nations in these fields and that their property and other legal rights will be fully supported by our Government."

I need scarcely add that the American oil companies operating abroad do not expect any guarantee or help from their Government with regard to the financial risks inherent in the oil business. If an American company spends $10,000,000 in an unsuccessful search for oil in a foreign country and finally pulls out with a net loss of the amount mentioned, that is part of the company's business. The American oil companies, however, do consider that they are entitled to help from their Government in connection with what may be termed "political risks." If an American company goes into a foreign country, operates according to its laws, acquires titles to its holdings legally, and succeeds in developing valuable properties, then the company does think it is entitled to the diplomatic protection of its Government against any attempt at outright confiscation, expropriation with wholly inadequate payment, or any less direct but equally effective way of depriving it of its property, on the part of a foreign government.

Now, Mr. Chairman, the witnesses whose testimony I am supposed to sum up did not refer to this subject, and for that reason I am perhaps a bit outside of my role in summing up, but I should like to be allowed just a couple of minutes to say a few words about the Anglo-American oil agreement, because it has a direct bearing on the subject we are talking about; namely, the national oil policy.

The CHAIRMAN. I am sure the committee would be very glad to hear your views. Of course, it is quite clear that the summing up which you are giving us now—a very excellent one, by the way——

Mr. JACOBSEN. Thank you.

The CHAIRMAN. Covers the whole field of the testimony given before this committee and is not confined to a summing up of the position of the independent companies.

Mr. JACOBSEN. That is right. As a matter of fact, the Petroleum Administrator for War and the Deputy Administrator did bring up the subject of the treaty, so it has been dealt with here before. There has been recently a lot of agitation, or you might call it propaganda, against the treaty.

The CHAIRMAN. Why is it, Mr. Jacobsen, that whenever any argument is presented against the position that we ourselves take we always refer to it as propaganda?

Mr. Jacobsen. That, Mr. Chairman, is the same reason that if we do not like a trade agreement we call it a cartel, and if we like it we call it a mutually beneficial trade agreement.

The Chairman. I am not aware of anybody calling a trade agreement a cartel. The witness made a statement and then looked at the chairman with a very amusing glint in his eye. Let me say the position of the chairman, from the very beginning of the debate over trade agreements, has been not that there should not be trade agreements, but that trade agreements should not be made by the executive arm of the Government without the knowledge and approval of Congress or of the Senate.

Mr. Jacobsen. Right. If there was a glint it was unintentional and misdirected. Perfectly seriously, I do not think there is any difference between the view you have expressed and my feeling on the subject.

The Chairman. There is no propaganda involved here?

Mr. Jacobsen. No propaganda involved. A lot of claims have been made against that treaty which I feel are utterly unwarranted. The fundamental claim made against it is that the treaty, if entered into, would enlarge the Federal power and invade the rights of the States with regard to matters of oil production, conservation, and so forth. I am not a lawyer and therefore I am not capable of expressing a valid opinion myself on that purely legal question.

The Chairman. Do you have a copy of the treaty?

Mr. Jacobsen. Yes. Not being a lawyer I cannot, on my own, give a valid opinion on that subject, but I have seen opinions of thoroughly competent attorneys, including specialists on constitutional and international law, and to the extent that a layman can evaluate legal opinion, there is no doubt in my mind that the lawyers who claim that the treaty would have no such effect have all the better of the argument. The treaty is directed toward only one thing; namely, the orderly development of the international petroleum trade. It is based on the principle that ample supplies of oil should be available to all countries on a competitive and non-discriminatory basis.

The Chairman. Mr. Jacobsen, in order that the basis of this argument to which you have referred may appear in the record at this point, I am going to read article VII (a) of the proposed treaty.

> The signatory governments agree:
>
> (a) That the general purpose of this agreement is to facilitate the orderly development of the international petroleum trade, and that no provision in this agreement, with the exception of article II, is to be construed as applying to the operation of the domestic petroleum industry within the country of either government.

The clause "with the exception of article II" apparently takes article II out of the provision that the agreement is not to be construed as applying to the operation of the domestic petroleum industry within the country of either government.

Mr. Jacobsen. Right.

The Chairman. In other words, it means apparently that the provisions of article II do apply to the operation of the domestic petroleum industry within the country of either government.

Mr. Jacobsen. Correct.

The CHAIRMAN. Therefore, it becomes important to know what the provisions of article II are which it is intended to make applicable to the operation of the domestic petroleum industry.

Mr. JACOBSEN. Correct.

The CHAIRMAN. Article II reads as follows:

> In furtherance of the purposes of this agreement, the signatory governments will so direct their efforts:
>
> (a) That all valid concession contracts and lawfully acquired rights shall be respected, and that there shall be no interference directly or indirectly with such contracts or rights;
>
> (b) that with regard to the acquisition of exploration and development rights the principle of equal opportunity shall be respected;
>
> (c) that the exploration for and development of petroleum resources, the construction and operation of refineries and other facilities, and the distribution of petroleum, shall not be hampered by restrictions inconsistent with the purposes of this Agreement.

Mr. JACOBSEN. Yes.

The CHAIRMAN. Therefore, the argument is that it follows that if any State in the Federal Union should enact a law or follow a policy which would be or could be interpreted as in conflict with the matters set forth in article II (a), (b) or (c), then the Federal Government could step in to change the law and the policy of that State.

Mr. JACOBSEN. That is the argument of the proponents of the theory that the treaty will enlarge the Federal power.

The CHAIRMAN. Do you want to be understood as saying that it will not?

Mr. JACOBSEN. Yes. I am not a lawyer and consequently I cannot give an opinion of my own that has any value, but based on the legal opinions which I have seen of thoroughly competent lawyers, I am firmly convinced, for whatever my opinion is worth, that the treaty will not enlarge such Federal power.

The CHAIRMAN. Well, speaking as a lawyer, let me say that I have often thought that the opinions of lawyers are given too much consideration. Lawyers have only one function as lawyers and that is to interpret written documents or written statutes. Therefore, in order to determine what a contract or a statute means, it is always the practice to try to determine what the negotiators of the contract or the legislators meant.

Mr. JACOBSEN. Yes, sir.

The CHAIRMAN. You appear before this committee as a very able person.

Mr. JACOBSEN. Thank you, sir.

The CHAIRMAN. One who speaks lucidly and clearly and leaves nothing to the imagination. You have testified that you were one of the advisers of the Secretary of the Interior in the negotiation of the treaty.

Mr. JACOBSEN. Yes, sir.

The CHAIRMAN. Therefore, the question arises what was the purpose of those who drafted article II.

Mr. JACOBSEN. Right.

The CHAIRMAN. Was it your intention to give the Federal Government the power, responsibility, and duty to undertake to correct or change any action by a State of the Federal Union that would be in contravention of the policies set down in article II (a), (b), and (c)?

Mr. JACOBSEN. I am very glad you asked that question, and it is

one that I can answer from my personal knowledge. I sat in not only with the negotiators in London when Secretary Ickes went over there, but I was named by the State Department a year before, when the first British mission came over here, to be on that committee, and I can say that it was the understanding and the intent and the purpose of all of the negotiators from start to finish, in connection with this treaty, that nothing in it should in any manner, way, or form enlarge the Federal power with regard to the States' rights with respect to the production or conservation of oil. If I may, Mr. Chairman, I would like to ask Mr. Rayner and Mr. Loftus of the State Department, who are both here and who sat in on those negotiations, to confirm what I have just said. May I do that?

The CHAIRMAN. I do not think I will ask the representatives of the State Department to make a statement at this time.

Mr. JACOBSEN. All right, sir.

The CHAIRMAN. Merely for the reason I want it to be clearly understood that this is not the Foreign Relations Committee.

Mr. JACOBSEN. Quite right.

The CHAIRMAN. They may not feel ready to be called upon to testify.

Mr. JACOBSEN. Quite right.

Mr. FRASER. Mr. Jacobsen, do you then believe if the treaty were ratified with a reservation that the treaty should not be deemed to confer upon Congress any powers that Congress does not already possess, such reservation would merely confirm the understanding of the negotiators?

Mr. JACOBSEN. Yes, sir, and I have heard lawyers express their opinion that confirmation of the treaty with such proviso would make the thing absolutely clear.

If I may, Mr. Chairman, I would like to say a few words about the working and effect of the treaty, if we go on the assumption that it does not enlarge Federal power. I would like to say this, that if it can be shown beyond question that this treaty will enlarge the Federal power in the sense that is claimed by the opponents of the treaty, then I will join the opposition, and I believe so will everybody else, because I do not know anybody in the oil industry, independent or major, who will want that treaty if it produces the legal result that the opponents of it claim. If we assume, however, that the treaty will not have the effect of so enlarging the Federal power, then I should like to say this: The treaty is directed solely towards an orderly development of the international petroleum trade. It is based on making available to all countries an ample supply of oil on a competitive and nondiscriminatory basis. It is claimed against the treaty that it provides for cartels, but how in the world you can have a cartel on the basis of a competitive and nondiscriminatory supply of oil to all countries, I do not see.

Furthermore, while the treaty was drawn up before the UNO charter was adopted, it will, as a matter of fact, fit in perfectly with the general provisions of the UNO with regard to commodity agreements. It provides for the setting up of a consultative body of three government representatives for each country. I emphasize government representatives and not oil people, although the hope is expressed that those representatives will keep in touch with the oil industry so as to know what they are talking about. It is specifically stated in the treaty

that the function of that commission is to be limited to the study of matters affecting the international petroleum trade; that they are to make reports on their findings, but that neither of the two governments, nor any of their nationals, is under obligation to follow the report. Then one might say, "Why have the darned thing if it has no compulsory power?" The answer is that the hope was, and still is, that the men who are appointed to go on that joint international commission will be men of great competence and integrity, and that their recommendations will be such that they will appeal to the two countries and to the industry in the two countries so that their recommendations or their reports will be followed.

The statement has been made that if this treaty is adopted, it will flood the country with foreign oil. I cannot see any possible basis for that. As a matter of fact, the country is open to a flood of foreign oil today by anyone who will import the oil and pay 10 cents a barrel duty on it. As a matter of actual fact, if there should be any danger of flooding the country with foreign oil it seems to me that the setting up of the consultative body by the representatives of the two countries to discuss the situation would be the very best means of avoiding the flooding of the country with foreign oil.

I think, Mr. Chairman, that pretty well covers what I wanted to say about it, in just a few words.

The CHAIRMAN. Your reference to the argument which has been made about the possibility that this proposed treaty would encourage cartels prompts me to ask you this question, based upon paragraph 4 of the preamble and paragraphs (a) and (b) of article I.

Mr. JACOBSEN. Yes, sir.

The CHAIRMAN. I do this in order to have in the record the basis of your statement.

Mr. JACOBSEN. Yes, sir.

The CHAIRMAN. Paragraph 4 of the preamble says:

> That the orderly development of the international petroleum trade can best be promoted by international agreement among all countries interested in the petroleum trade, whether as producers or consumers.

I take it that, standing alone, would be a declaration which would permit government cartels.

Mr. JACOBSEN. That was not the intention of it.

The CHAIRMAN. I say, standing alone it would do that.

Mr. JACOBSEN. Yes, sir.

The CHAIRMAN. I take it your position is that paragraphs (a) and (b) of article I modify that. They read as follows:

> (a) That adequate supplies of petroleum, which shall in this agreement mean crude petroleum and its derivatives, should be accessible in international trade to the nationals of all countries on a competitive and nondiscriminatory basis;
>
> (b) That, in making supplies of petroleum thus accessible in international trade, the interests of producing countries should be safeguarded with a view to their economic advancement.

Mr. JACOBSEN. Right.

The CHAIRMAN. Is it your interpretation, as one of the advisers, that this article I (a), with its declaration that supplies of petroleum and its derivatives should be accessible in international trade to the nationals of all countries on a competitive and nondiscriminatory basis, rules out the possibility of Government cartels?

Mr. JACOBSEN. Yes, sir. I do not see how you can have a cartel that would be compatible with a supply of oil on a competitive and nondiscriminatory basis. The very essence and heart of a cartel is the lack of competition.

The CHAIRMAN. Then what is your interpretation of paragraph (b) of article I which reads:

> That, in making supplies of petroleum thus accessible in international trade, the interests of producing countries should be safeguarded with a view to their economic advancement.

Would that declaration, in your opinion, make it possible for the United States, as a Federal entity, and for the several States of the Federal Government as State sovereignties, to take action which, in their respective judgment, would be designed to safeguard the economic advancement of independent producers in the United States?

Mr. JACOBSEN. No, sir. The purpose of that provision was this: It has been claimed in some cases that the oil industry, international oil industry—not merely the American oil industry, would go into what we call a backward country and would just exploit the natives, take out all the oil it could as fast as possible and with no regard whatever to the well-being or welfare of the country in which they were operating. That principle was laid down there as a statement of purpose, objective, and principle that we should not just exploit the countries abroad where we may find oil, that we should have some consideration, and fair consideration, for the well-being of the country which produces that oil.

The CHAIRMAN. The United States is a producing country.

Mr. JACOBSEN. Yes.

The CHAIRMAN. Are we to understand that it was not intended by this provision to guarantee to the people of the United States, through the National Government or through the State Governments, to provide for the economic advancement of the interests of the people of this country?

Mr. JACOBSEN. Right. That paragraph there was not designed for the purpose that you mentioned, because what we had in mind was the foreign operations. As a matter of fact, the very first draft of that treaty dealt solely with foreign operations outside of the United States and outside of Great Britain. Then it was found later on that when you talk about Great Britain, which we in our innocence to start with thought meant only the British Isles, you talk of a very fair portion of the globe, due to the particular constitutional set-up which they have in England. Therefore, the purpose of the treaty was changed to cover the oil in international trade. The purpose of that particular paragraph, when it was drafted, was the one I mentioned to you, to safeguard the countries that produced the oil. The United States was not in our minds, nor were the British Isles, but it certainly does not mean that anyone feels that the independent producer should not be taken care of. Furthermore, he does not need a treaty to be taken care of. He is pretty good at taking care of himself, but it was not directed to them.

The CHAIRMAN. The point, of course, in this whole argument about the meaning of this document is whether or not it would amount to a commitment by the Government of the United States so to conduct

international trade in petroleum as to impair the activities of producers within the United States.

Mr. Jacobsen. I see the point you are getting at. In other words, if a development took place which could have a very adverse effect on the domestic producer and could seriously hurt the domestic producer, then I certainly agree with you, then it would be part of the purpose of the agreement to prevent that hurt.

The Chairman. So that the domestic producer in the United States is, in your judgment and according to your intention as adviser, just as much entitled to the benefits of this provision of Article I as a producer anywhere in the world?

Mr. Jacobsen. Right. Although the paragraph when it was drafted had another direction, nevertheless what you say is completely true.

The Chairman. Now, may I ask, Mr. Jacobsen, whether in this discussion of the proposed treaty you have been speaking as a representative of the independent companies or as the adviser to the group abroad?

Mr. Jacobsen. No, Mr. Chairman, I am afraid I have been speaking only in a personal capacity. Nobody has given me a mandate to talk about it.

The Chairman. Of course, you come before the committee by appointment to summarize the testimony.

Mr. Jacobsen. Yes; except that I apologized to start with, Mr. Chairman, by saying the testimony of the witnesses I was supposed to sum up had not dealt with the treaty, but I would like, and you gave me the kind permission, to express myself on the subject.

THE CONTINENTAL SHELF

At various times during the hearings reference was made to the "continental shelf", arbitrarily defined as the portion of our coasts running seaward to a depth of 100 fathoms, or 600 feet, as a source of new supplies of oil, and you heard testimony from competent attorneys on the legal issues involved which are many and complex. The width of this belt of water—which does not include the tidal lands within the 3-mile limit—varies greatly, of course, but in many cases a depth of 600 feet of water is not reached until many miles from shore. For instance, competent opinion was expressed before you to the effect that along the shores of Texas and Louisiana this belt would probably average 75 miles in width. In cases where the 100-fathom depth is not reached until a considerable distance beyond the 3-mile limit, international law is apparently silent on the subject of rights of ownership and rights of extraction of any oil that may underlie the sea bottom. Any unilateral declaration by the United States of such extension of ownership would be subject to challenge by other powers, and in many cases treaties with other nations would doubtless be necessary to clear the situation.

The prospects of finding oil under the continental shelf naturally vary greatly, ranging all the way from practical impossibility to practical certainty. There is no doubt whatever, for instance, that oil deposits exist under the continental shelf along the coasts of Texas and Louisiana. Many and very prolific oil fields have been found on land close to the shore line, and there is no good reason why similar fields may not be found offshore. However, while means have been de-

veloped for drilling under a moderate depth of water, no drilling has ever been attempted at depths at all comparable to 600 feet. The greatest underwater depth at which drilling has so far been accomplished is approximately 90 feet in the protected waters of Lake Maracaibo in Venezuela. To drill at a depth of even 200 feet—let alone 500 or 600—in the open waters of the Mexican Gulf would present very great technical difficulties which, if they could be overcome at all, could only be conquered at enormous cost. In fact, it is most likely that it will be far cheaper to produce oil by conversion from coal than to drill at any great depth of water in the open sea. Therefore, while the exploration of the continental shelf within a practical, commercial drilling depth of water should not be neglected, we shall not be justified in looking upon the continental shelf as a source of any really important addition to our oil resources until it has been demonstrated that drilling in deep water in the open sea is feasible at a justifiable cost. Personally, I consider this a most unlikely contingency.

Captain FRANCHOT. May I just interpose a question on definition? In the beginning of this subject you say, "The width of this belt of water (which does not include the tidal lands within the 3-mile limit) varies greatly." The way I understand, that should be "submerged" lands. The word "tidal" means between low-water mark and high-water mark.

Mr. JACOBSEN. It is from the outward limit of the 3-mile limit and beyond.

Captain FRANCHOT. It does not include that part which is in controversy now in the State of California?

Mr. JACOBSEN. That is right.

Captain FRANCHOT. When you used the word "tidal" I thought I might clarify it.

Mr. JACOBSEN. O. K.

Mr. FRASER. Is there some offshore drilling going on off Prince Edward Island?

Mr. JACOBSEN. I believe there was one well drilled there, but I am not sure. It was quite close in.

The CHAIRMAN. The oil industry has demonstrated great ingenuity in conquering obstacles.

Mr. JACOBSEN. Yes, sir.

The CHAIRMAN. Is it not possible that it might have ingenuity enough to conquer this obstacle, the depth of the submarine deposit?

Mr. JACOBSEN. I hope so, but I am afraid that is very unlikely. I will put it this way, Mr. Chairman: I am quite sure that if the obstacles are overcome it will be at very great cost. If you could be sure of drilling very prolific fields with very large wells then you might do it, but what I am afraid will kill the project is the enormous cost of wildcatting, because you have to drill, even on land with all of the facilities we have there, many wildcat wells, 50 or 100 or more probably, before you find a really prolific oil field, and only a prolific oil field would pay out. I am afraid the great number of wildcat wells that would have to be drilled in order to get a really prolific field might kill it, from the cost standpoint.

The CHAIRMAN. Do you think a national policy with respect to this subject should be based upon a pessimistic prediction as to the capacity of the oil industry to overcome difficulties?

Mr. Jacobsen. Not at all.

The Chairman. Or upon optimistic predictions that it might be able to do it?

Mr. Jacobsen. On an optimistic prediction, without kidding ourselves too much.

The Chairman. That is what I call a qualified answer.

Mr. Jacobsen. Yes. In other words, what I think should be done, and probably will be done, is start fairly close in to land and then move out. It would be a mistake, in my opinion, right now for anyone to go out and try to drill a well at 200 feet of water in the open waters of the Mexican Gulf. But offshore wells have already been drilled at a depth, I think, of 20 or 25 feet, and in one case they used a rather ingenious way of doing it. Due to the fact that the foundation on which the drilling rig had to be put up, which is a very costly affair, they drilled a number of so-called directional wells, all directed from the same platform, and they gave the wells a definite slant in the particular direction they wanted to go, and therefore they drilled, I think, six or seven wells, something of that sort, from the same derrick.

My point is that the proper development of the offshore oil should be undertaken, and will be undertaken, by degrees. Some may go out and find a good oil field at 25 feet, and they will gain experience in doing that, and then some will find indications of a good field at 45 feet, and they will try that, and as they go along they will learn by previous experience. We should certainly go out as far as we can. My reason for putting it in this somewhat pessimistic way was that I do not think we are justified in saying we need not worry, because we have billions of barrels of oil under the continental shelf. We do not have it until we get it.

The Chairman. What is the greatest distance from shore at which any successful operation has been conducted as yet?

Mr. Jacobsen. When you say "successful operation" you do not necessarily mean finding oil, because the thing that matters is drilling a well.

The Chairman. That is right.

Mr. Jacobsen. I am not sure, but I believe they have drilled as far as 10 miles offshore.

The Chairman. Where?

Mr. Jacobsen. Off the coast of Louisiana, but I want to say I am not sure of the distance. I do know the Texas Co. has drilled one or two wells quite far out. It may not be a full 10 miles, but it is quite some distance out, at least sufficiently far out to be in what is definitely the open waters of the Gulf.

The Chairman. Of course, the question which will ultimately have to be decided on this particular subject is whether State government or the Federal Government shall have governmental jurisdiction over the operations beyond the 3-mile limit.

Mr. Jacobsen. Yes, sir.

The Chairman. That is the question.

Mr. Jacobsen. That is right.

The Chairman. I want to know whether you agree that the determination of that question should not be dependent upon a prediction made now with respect to the possibility of drilling at deep-water depth?

Mr. Jacobsen. I agree with you completely, Mr. Chairman. I think that as far as our establishing whatever legal right under international law may be necessary to make ourselves the owner of that belt, we should proceed with just as much energy and determination as if we knew we were going to find a lot of oil there.

The Chairman. Thank you very much.

PETROLEUM REQUIREMENTS

Mr. Jacobsen (resuming): Estimates of future petroleum requirements, domestic and foreign, and the means of meeting these requirements, were presented to you. These estimates extended as far as the year 1965, but it was pointed out to you that such long-term estimates are very precarious and that not too much reliance should be placed on them.

The statement was made to you that the areas outside the United States contain approximately two-thirds of the world's proved crude oil reserves and before the war were producing approximately, one-third of the world's total requirements. Furthermore, these foreign areas have been much less intensively prospected than the United States. Therefore, actual and potential oil supplies in foreign areas are so large in comparison with possible future consumption that a more than adequate supply to meet the consumption can be taken for granted.

With regard to the situation within the United States, the question of our ability to meet all future demands has already been referred to in some detail under the heading of sources of petroleum in the United States. Dr. Robert E. Wilson, who appeared before you in the hearings on the subject of Petroleum Requirements—Postwar, expressed the definite conviction that our requirements will be met if the industry is afforded freedom of opportunity and a favorable legal and economic climate. Dr. Wilson pointed out that—as already touched upon in connection with the hearings on sources of petroleum in the United States—there are many ways to meet the demand—deeper drilling, improved recovery methods, secondary recovery, oil shales conversion from gas and coal, and imports to the extent necessary. Dr. Wilson gave some interesting information regarding the present status of the art of converting gas and coal into oil. He stated that it is now possible to make gasoline from natural gas at costs similar to present costs of making gasoline from crude oil, and estimated that by devoting only one-third of our present gas reserves to this operation, and producing these reserves at the rate of 4 percent per annum, we could make 500,000 barrels daily of gasoline or about 30 percent of our prewar gasoline consumption.

From the long-range viewpoint, Dr. Wilson made an even more significant statement when he said that given just a few years of further research and development we will by means of the Fischer process be able to produce good gasoline and Diesel fuel from subbituminous coal and lignite at costs not more than 5 or 6 cents per gallon above present costs. Our supplies of these coals have been estimated as sufficient for more than a thousand years' consumption, which would seem to dispose of even a remote danger of an oil shortage in this country.

Mr. Fraser. It will for 1,000 years.

Mr. Jacobsen. Yes; but after that some other hearing will presumably deal with it.

Mr. Fraser. I do not think we should smile when we talk about 1,000 years. There is no reason why this country should not last as long as the Egyptian Empire, or longer.

Mr. Jacobsen. True. I may say a 1,000 years is very conservative because, as a matter of fact, the estimate is 2,000 years. I just wanted to make it 1,000 years in order to be on the safe side. Seriously, though, I think we can all feel, if we attempt to look that far ahead, that atomic energy, and things of that sort, will come in.

The Chairman. Is this the "foreseeable future" we are talking about now?

Mr. Jacobsen. When I was thinking about that query of yours the other day, Mr. Chairman, when you were asking about the "foreseeable future," I wondered if 2,000 years was long enough. [Resuming:]

Enormous quantities of oil are locked up in the oil shale deposits of our western States, but except perhaps in the case of some of the richest and most accessible deposits, it is likely that conversion from coal will be a cheaper source of supply, if or when crude oil should fall short.

Dr. Wilson stressed the importance of price as a factor in making supply meet demand. This, of course, applies to the production of crude oil as well as to the manufacture of synthetic products, and he pointed out that even with present high taxes, gasoline is still only a small part of the cost of operating an automobile.

With the development of foreign fields and the declining rate of discoveries of new fields in this country, it is logical to expect that foreign fields will increasingly supply foreign markets, with a corresponding decline in our net exports of oil from this country. With regard to the problem of imports, the best answer would seem to be that we should follow an import policy which will permit our domestic needs to be met at reasonable prices, but which will not flood the market with foreign oil or keep prices at a level which would discourage an adequate amount of exploration, wildcatting, or secondary recovery activities, nor retard the continuity of technical innovation and progress in the domestic field.

This view was concurred in by the representative of the Army, General Peckham, who stated that we should avoid importations which would depress the domestic market price for crude oil to the extent that the capital and resources of domestic companies would be depleted with resulting injury to the domestic industry, and with adverse effect on scientific and technological developments. General Peckham added that

> only if there is a healthy domestic industry with a fair chance of profit can we anticipate a full utilization of American business ingenuity in the exploration, production and refining of oil.

Dr. Wilson made a short reference to the subject of atomic power and expressed the opinion that while the economics might not justify the building of new plants to make the raw material for atomic power "it seems quite possible that the next decade may see commercial applications of power development in large units from raw materials made

in our present plants." Dr. Wilson did not see any reasonable probability of atomic power ever being used to run automobiles, although he would not say such a thing was impossible.

I should like to quote the closing paragraph of Dr. Wilson's statement:

> To summarize, the one point I want to emphasize to this committee is that our most important reserve does not consist of the number of barrels of oil that we can point to in the ground, but rather consists of research and technology supported by a healthy and vigorous industry. Technology is the indispensable finder, developer, and multiplier of our natural resources; and, given a fair chance, will accomplish even more in the future than it has in the past. The most essential element of national oil policy is to leave the industry free to develop on a tried and proven basis, and to shun the adoption of measures which would attempt to regiment research, destroy the incentives to invention, or prevent the free play of competitive enterprise.

The CHAIRMAN. Mr. Jacobsen, I notice that your next subject is postwar disposal of pipelines, refineries, tankers, etc.

Mr. JACOBSEN. Yes.

The CHAIRMAN. You will recall that last week, as it became apparent that we were not going to be able to hear the witnesses who came to talk about the independent company within the time limit that I had set, I told several persons who were present that a separate hearing would be held on the disposal of the pipe lines. In view of that fact, I think it probably would be inappropriate at this moment to proceed with that discussion, because I would like to have present all who are interested, and of course I would also like to give notice to the members of the subcommittee of the Committee on Military Affairs dealing with surplus property.

Mr. JACOBSEN. This also takes in refineries.

The CHAIRMAN. Nevertheless, in view of the fact that these witnesses who came last week, and who were prepared to express their views on that subject, are not here, I think it would be appropriate if you would let it go until we cover the whole subject.

Mr. JACOBSEN. The whole subject, not merely the pipe lines?

The CHAIRMAN. The whole subject. Of course, when the subject is taken up it will cover all of these subjects that you are discussing.

Mr. JACOBSEN. Right. In the meantime, will this go in the record, because it is all bound up in this pamphlet?

The CHAIRMAN. Why not save it? Mr. Fraser and the clerk of the committee will know how to handle it.

PETROLEUM ADMINISTRATION FOR WAR

Mr. JACOBSEN (resuming). The Petroleum Administrator for War, the Deputy Administrator, and a number of the principal members of the staff of the Petroleum Administration for War appeared before you. I do not think there was on any important point any difference of opinion with respect to the views regarding our national oil policy as expressed by the representatives of the Petroleum Administration for War and the witnesses representing the oil industry who have appeared before you. Both the Administrator and the Deputy Administrator stressed the importance of an adequate price for oil as a stimulus to new discoveries. Both emphasized the importance of the foreign operations of the American oil industry, and both stressed the importance of maintaining the petroleum industry as a private, com-

petitive enterprise, and the importance of keeping the small operator in business. On this point, Mr. Davies testified that more small refineries were running at the end of the war than ever before, and one of the members of the PAW staff stated that something less than 25 percent of the total service stations in the country had been closed during the war, and that they are now being reopened, largely by veterans. With regard to foreign operations Mr. Davies stated that the country should encourage and support a continued strong American position in foreign fields for reasons of security as well as of economics, and he stressed that one essential of such activity is equality of opportunity for American citizens. Mr. Davies also expressed the view that—

American citizens in foreign oil operations should be secure against having the terms of their contracts changed after they have made their investments; that they be not subjected to new and unreasonable demands and that they be secure from confiscation.

Mr. Davies' position with regard to importation of foreign oil was stated in the following terms:

The import duty should be high enough to insure a crude price that will encourage domestic exploration, development and production. It should be high enough to foster the development of productive capacity adequate for the national security. It should not be so high as to relieve the domestic industry of incentive to lower production costs, or to drive overseas all refining of foreign crude to make products for export, or to result in high prices to the American consumer.

THE ARMED SERVICES

Commodore Greenman of the United States Navy placed before you a statement embodying the Navy's views with regard to a national oil policy which he stated had been cleared with all the policy-making departments of the Navy, and had been personally approved by the Secretary of the Navy. He stated it had also been submitted to the War Department for clearance and that the Navy had been advised there is no divergence of views.

There is no conflict on any important point between the recommendations made in Commodore Greenman's statement and the views expressed by the representatives of the Petroleum Administration for War and the witnesses representing the oil industry. The Navy stressed the importance of energetic development of our domestic resources, producing capacity, and maximum technological advances in all branches of the industry. It complimented the American oil industry on its foresight and enterprise in developing large oil resources under American control in different parts of the world and stressed the importance of these holdings. It urged that in their foreign operations United States nationals be given government support in the expansion, development, and production of all such interests. While urging the development of American controlled foreign oil resources, the Navy stated that such oil should not be—

imported into this country if such importation results in any diminution in the incentives that should exist here to encourage the search for oil or in any narrowing of those profit margins that furnish the funds for vigorous domestic exploration.

The Navy's statement emphasized that—

No plans are being formulated for acquiring any additional Navy petroleum reserves from private lands or from government lands. The overall sustainable

and available production capacity of the Nation's oil industry is the prime concern of the armed services.

The CHAIRMAN. If it is agreeable to you, we shall take a recess until 2 o'clock.

(Whereupon, at 12:15 p. m., the committee recessed until 2 p. m. of the same day.)

AFTERNOON SESSION

The CHAIRMAN. We shall come to order. You may proceed, Mr. Jacobsen.

STATEMENT OF ALFRED JACOBSEN—Resumed

THE INDEPENDENT COMPANY

Mr. JACOBSEN. The greater portion of the testimony presented under the above heading dealt with the independent producers. Witnesses who appeared before you furnished statistical particulars showing the very important position occupied by this group within the industry.

The testimony of the witnesses who appeared before your committee during these hearings on the independent company, together with that of the witnesses at the earlier hearings, some of whom were "independents" and some "majors," has shown that while these two loosely defined groups have problems peculiar to each, their interests in most respects run parallel. They both want to see the oil industry continue as a free, competitive private enterprise, with conservation measures in the hands of State regulatory authorities, and with the sympathetic cooperation of the Federal Government in such matters as Federal taxation, imports, and the so-called Connally hot oil law. They both advocate—and both practice—continual technological advances and constantly improving efficiency of operation, and they both oppose importation of foreign oil in quantities which would depress the American oil industry and would deprive the domestic producer of the incentive and the means to carry on the energetic and continuous search for new oil deposits within our own borders which is necessary for our prosperity and our national safety. Both groups stressed to you that a fair and adequate price for crude oil must be paid to the domestic producer if we are to be assured of a supply of oil sufficient for our future needs. Both advocate the continued operation of the Interstate Oil Compact and both urge the liberalization of the laws and regulations governing the leasing of federally owned lands.

It is erroneous to assume that the oil industry is divided into two clearly defined opposing and antagonistic groups—"independents" and "majors"—with entirely conflicting interests and objectives. As a matter of fact, in most respects the independents and the majors are "in the same boat," and in general it can be said that the fundamental conditions which spell prosperity or depression for one group will similarly affect the other. The two groups form one industry and the operations of one mesh with and supplement those of the other. It is true, of course, that there are conflicts of interest and viewpoints on many subjects as is inevitable in a highly competitive industry, but the points of community of interest between independents and

majors in fundamental matters are more important than the points of difference.

Evidence was placed before you by several witnesses showing some of the many ways in which independents and major oil producers cooperate in joint ventures of various sorts to their mutual advantage. Information regarding cooperation in another sphere was presented by Mr. Russell B. Brown, general counsel of the Independent Petroleum Association of America, from whose testimony I quote as follows:

> Generally they (i. e., the large oil companies) have made large expenditures on their technical departments and have maintained large staffs. Any new information thus obtained which would be of general benefit has been freely shared by them just as the smaller operators in their pioneer work have made known their results. The producing industry has been singularly free of restrictions created by patents * * *. The traditional willingness of oil producers, large and small, to share new information on producing practices has enabled all parts of the oil-producing country to achieve greater efficiency.

I think, Mr. Chairman, that is really quite a gratifying condition of affairs, the one described here.

The oil industry is highly competitive, beginning with the frantic scramble for leases in a supposedly potential oil area, and ending with the competition in the sale of gasoline evident to every motorist and to every radio listener. This competition does not take place on any line of cleavage between "majors" and "independents." The majors compete among themselves just as do the independents, and just as independents compete with majors. It is by no means to be taken for granted that in competition between the major and independent the former will necessarily gain the advantage. In a scramble for leases, for instance, the large company may buy 1,000 acres or 5,000 acres where the small independent buys 100 acres, but from the point of view of cost per acre or ultimate yield in barrels of oil per acre, the little fellow frequently does better than the big one, just as an independent operating one filling station and building up his clientele through personalized service will frequently do better than the big company station across the street.

The Chairman. Do you have anything to say about the statement which is sometimes made that the majors are inclined to respect one another's territory in the scramble for leases?

Mr. Jacobsen. In the scramble for leases, I know definitely that it is not so. If it is, I never came across it, and have never come across it in the years that I have been in the business.

The Chairman. Then you want it understood that you say that you are aware of no such condition?

Mr. Jacobsen. That is right, that I am aware of no such condition with respect to scrambling for leases, and I have never run across it.

The Chairman. Is there any such policy with respect to any other aspect of the business?

Mr. Jacobsen. I emphasize this with respect to leases, because that is what I knew about by virtue of working with the company with which I am connected. I am not well acquainted with conditions with respect to marketing, and therefore I cannot make the same categorical statement.

When it comes to respecting each other's territory in marketing, if one company is operating in a series of States, for instance, on the eastern seaboard, and they do not go into adjoining States, that does not

necessarily mean, of course, that they are respecting the market. It simply means that they have laid out the territory where they feel they can operate economically and efficiently, and do not want to go beyond it. Likewise, in the producing end of the business, there are some companies that are operating elsewhere, but are not in the State of Kansas, for example. But if they keep out of Kansas, that is not because they have an agreement or understanding with anybody that they will not go in; it is simply because they feel they cannot be everywhere, and somehow they do not go into Kansas, just as there are even some that do not go into Wyoming. They show bad judgment when that happens. [Resuming:]

It is true, of course, that a large concern is much less likely to go bankrupt than a small one, but mere size is no guarantee of successful operations and profits. Many small concerns are more successful in proportion to their size than some of the biggest. Likewise, there is not necessarily any particular advantage in being an "integrated" company. Many smaller concerns engaged in only one branch of the business do relatively better than larger companies engaged in all branches. It is frequently assumed that an integrated company is necessarily a large company. This is an unjustified assumption, as has been shown by independent witnesses appearing before your committee. Some small concerns are integrated units operating in all branches of the industry, whereas much larger concerns are in only one branch.

The CHAIRMAN. Of course, it is quite true that a large company is not necessarily an efficient company, nor an integrated company a large company. That does not follow. But what would you say about the relative advantage of an integrated company over an independent in any particular branch of the industry, by and large, I mean? Naturally, there are exceptions to all rules.

Mr. JACOBSEN. Oh, yes. I am perhaps prejudiced to some extent by the fact that in the company that I am connected with I have been instrumental in keeping us from becoming integrated. We are solely producers, and we have been very well satisfied with the condition of being solely producers, although we have had plenty of opportunity to become integrated by merger and otherwise. If I have been instrumental in keeping us from becoming integrated, it was naturally because I thought that was the best thing to do, and therefore I may not be a completely impartial witness. I would say, though, in general, that if a company were to be engaged in only one branch of the business, probably the best one to be in would be production. Again, I am prejudiced, probably.

The CHAIRMAN. I asked several witnesses the other day about their markets.

Mr. JACOBSEN. Yes.

The CHAIRMAN. Let me ask you the same question. What is your market? Do you sell to majors or small companies?

Mr. JACOBSEN. We sell principally to the majors.

Further on in the paper reference is made to the method of selling the oil. Most of the independents sell principally to the majors for the simple reason that if all of the independent refiners in the country bought all of their oil from the independents, there would still be the greater portion of the independently produced oil seeking a market.

In other words, the sum total of the independent refiners' requirement of crude oil is only a fraction of the total quantity of oil produced by the independents. Therefore, the independents must look to the major companies as a market for the greater portion of their oil.

The CHAIRMAN. Do you feel that it has an effect upon the price that so much has been sold to the majors?

Mr. JACOBSEN. No, sir; I do not, because the independents cannot afford to pay a higher price than the majors. The independent refiners probably have on the whole a harder row to hoe than the majors, who have the marketing and everything else. Therefore, generally speaking, the independent refiners could not afford to pay to the independent producers any higher price than is paid to the independent producer by the major company. So I do not think it makes any difference on the market.

Furthermore, generally, in the fields where the oil is purchased—and I say generally—the same price is posted by the independents and the majors. The independents obviously could not afford to post a higher price than the majors, and if they posted a lower price, the independent producer would rather sell to the majors and get the full price.

Therefore, competition forces the same price between majors and independents. Consequently, it makes no difference to the income of the independent producer whether he sells to a major or to an independent. Likewise, it makes no difference to the quantity of oil that he is allowed to produce, because that is governed by the State conservation laws, in any event. In other words, the independent, like the major, is told how much oil he can produce, and he is not allowed to produce more or less if he sells to an independent refiner or to a major.

The CHAIRMAN. Have you heard the statement made that in some fields where the producing companies and integrated companies are the dominant factor they can hold their prices down below what the independent producer thinks should be the price?

Mr. JACOBSEN. Of course, the independent producer being human generally thinks the price ought to be higher. And I quite agree with him. Whatever it is, I think it ought to be higher. That is only human nature. But I think you will find later on in this testimony I cover some of the independent witnesses who testify to the generally satisfactory nature of the manner in which the independents' oil is sold.

The CHAIRMAN. Of course, the underlying question, which is of interest in any study of this industry or of any industry in which integration appears, is what the effect of that integration is going to be upon the various independent factors or units in the various branches of the industry.

Mr. JACOBSEN. That is right.

The CHAIRMAN. There is a tendency towards integration in all large industries, is there not?

Mr. JACOBSEN. Yes; that is quite right.

The CHAIRMAN. Whether it be oil or steel or anything else, the producer wants to be the fabricator and then wants to be the distributor?

Mr. JACOBSEN. That is right.

The CHAIRMAN. Now, the figures which were placed in the record the other day from the Department of Justice at my request tended to show that the process of integration is still proceeding.

Mr. JACOBSEN. That is correct.

The CHAIRMAN. It showed that a constantly larger and larger proportion of various branches of the business is falling under the control of the so-called majors.

Mr. JACOBSEN. That is right.

The CHAIRMAN. Now, that undoubtedly has an effect.

Mr. JACOBSEN. Of course.

The CHAIRMAN. The inevitable effect is to narrow the field in which the independent may operate. Do you cover that in your paper?

Mr. JACOBSEN. I do, sir.

The CHAIRMAN. Very well.

Mr. ENGLAND. Mr. Chairman, I think what Mr. Jacobsen said is true as a rule. However, there have been occasions on which independent refiners had to pay a premium in order to get oil to operate their refineries. Mr. Dow referred to that the other day. Now, that is not the rule, but that does happen on occasions. And the last condition he was describing is one in which there is a surplus of production. When it is the other way, you have a scramble for crude petroleum, and the independent often has to pay a higher price.

Mr. JACOBSEN. That was brought out at one of the hearings the other day, and the independent witness who was before you at the time stated that he did not think that any such case has occurred for the last 10 years. I thought it was the last 15 years, and he corrected me to about 10 years.

Then what I say, sir, is true, but it has also been true in probably just as many cases that the independent refiner has been able to buy at a discount. That has happened just as often as his having to pay a premium.

It all depends, or depends very largely, on the conditions under which a new field may be brought in. Suppose, for instance, that a new field, not a large field—not East Texas, or anything of that kind, but a regular-size field—is brought in quite some distance away from a major pipe line, but happens to be located fairly closely to an existing independent refinery. Then that independent refiner has a special advantage with respect to that field, due to the short transportation.

Mr. ENGLAND. Then there is the local supply and demand problem to consider, in addition. If you have an over-production, you have a drop in price.

Mr. JACOBSEN. That is perfectly true. Then the independent refiner in that case does what any businessman will do; he tries to buy that oil as cheaply as possible. He would be foolish if he did not. And that means that if he buys at 10 or 15 cents under the market, so much the better for him.

Mr. FRASER. Is it correct to say that many times the independent producers would prefer to sell to the major refineries, because there is a steady, constant demand from those refineries, whereas perhaps the demand from the independent refineries is more intermittent—is there anything to that?

Mr. Jacobsen. I think that is a perfectly fair statement, because the independent refiner with a relatively small refinery has his seasonal changes. His demand may go up and may go down, whereas the major company, due to the great number of connections it has to different producers, can take it all in its stride. I dare say the point you make is quite good. [Resuming]:

Several of the representatives of the independent section of the industry appearing before you testified to the effect that the independent producer has more than held his own in the fields of exploration, wildcatting, production practices and techniques as well as in the development and practice of secondary recovery methods. Several of the independent witnesses, particularly Mr. O. C. Bailey, gave particulars regarding the many ingenious ways in which the independent wildcatter by various cooperative devices with majors, as well as with other independents, finances the drilling of wells which involve a greater financial risk than he can afford to carry alone, and it was pointed out that the independent's function in this respect causes the drilling of a great many wildcat wells which would otherwise have remained undrilled.

One of the most important functions which the major companies fill in their relations with the independent producers is that they furnish the latter with a ready and immediate market, and in the vast majority of cases, right at the well. In the States having conservation laws, which now includes most of the oil-producing States, this means that the independent has a purchaser of undoubted solvency, right at the well, for whatever quantity of oil the independent is able and permitted to produce from day to day. On the other hand, the major companies are usually willing enough to buy the oil as they need it for their refineries. Before the advent of conservation and orderly development, the major companies could produce as much oil as they liked from their own wells and leave it to their independent neighbor to take care of himself as best he could. This is no longer the case, as the proration orders in the various fields are based on the general principle of ratable takings, and therefore the major companies cannot take more than their share of the oil from their own leases, and in order to get enough to meet their refinery requirements, they buy the independents' oil.

On this subject, I should like to quote as follows from the testimony of Mr. O. C. Bailey:

> In addition to helpful laws and regulations of the Federal and State Governments, each operating within its separate and proper sphere, the free play of competitive forces within the petroleum industry has evolved and firmly established procedures by which crude oil is marketed and which have not only been helpful to the producer but have been highly beneficial to the public. The preservation of free competition among purchasers of crude oil is of vital importance to the independent producer. * * *
>
> The integrated companies operating such lines (major pipe lines), either direct or through a subsidiary or affiliate, are the principal purchasers of the independent producer's oil.

They are the principal purchasers for the reason that I mention, Mr. Chairman, that the independent refiners do not need and cannot consume enough oil to take all the independents' crude. [Resuming quotation:]

> When a new field is discovered the producer's first step is to obtain a pipe-line connection. Often the pipe line nearest the field will be extended to the new

discovery; however, such is not always the case and frequently as the new field is developed competitive lines enter. In practically all of the major oil-producing areas producers have the choice of a number of competing carriers and purchasers. * * *

. . . ratable takings from all producers is now a well-established practice and in those States having sound conservation laws the producer has few marketing problems. He is assured of: (*a*) Reasonably prompt pipe-line connections in new fields; (*b*) prompt pipe-line connections to all properties within fields; (*c*) an assured and continuous market; and (*d*) ratable takings.

The Chairman. That, of course, is a condition described by Mr. Bailey as applying in those States which have sound conservation laws.

Mr. Jacobsen. Yes, sir.

The Chairman. To what extent is that a rule in other States?

Mr. Jacobsen. California has no such law; Illinois has no such law. In California they have a gas conservation law which prohibits the waste of gas; and, in a roundabout way, through the operation of the gas conservation law, they manage to do a reasonably thorough job of oil conservation, because the State will not allow them to flare gas at the wells.

In Illinois, when those fields were in their flush period a few years ago, we had all the evils of unrestricted production. But Illinois is now down to a settled basis; most of the wells are pumping wells, or flowing wells of very small capacity, so that there is no problem there now.

The Chairman. How about the ratable takings in such a State?

Mr. Jacobsen. Generally speaking, the purchasing companies see to it, that they get roughly fair ratable takings. Of course, if you have a situation like Illinois, where each of the properties produces as much as it can and everybody takes out all he can, then the question of ratable taking is automatically solved, because each produces all he can. Those fields have now reached the point where that is about all you can do, anyway. The damage in Illinois was, as is always the case, done during the flush period. It is the improvident production methods during the flush period that harm the fields. Once the gas pressure is off and the harm to the fields has been done, it does not make much difference what you can do in the way of production. You can then produce all you can.

The Chairman. Do you then wish to be understood that even without a law requiring ratable takings by pipe lines, the pipe lines nevertheless will deal fairly and equitably with all producers, and by voluntary action create the market for a new independent small producer if it comes in?

Mr. Jacobsen. It would probably be taking in a bit too much territory to put it as broadly as that, because you would always be able to find some exceptions to the general rule. But I think it is fair and proper to say that with respect to most of the large producers of oil, the general idea of ratable takings and the realization of the fact that the only basis on which you can have proper production methods is ratable takings, that principle is generally adhered to. I would not, however, make it quite as broad as you did, and say that we need not worry, that everything is taken care of.

The Chairman. I see.

Mr. Jacobsen (resuming): Considerable testimony was given regarding the very important part played by the independents in the

development and use of modern technological methods applied to exploration, drilling, and production. It was brought out in this connection that for the independents whose operations are not sufficiently extensive to warrant their building up an organization of their own in these fields, all of these technological improvements are made available by thoroughly competent service corporations who are specialists in their various fields and operate on a fee basis. In fact, the employment of these service corporations is so convenient that they are used to a very large extent by the major corporations.

Attention was called to the downward trend of successful wildcatting by independents. As brought out by witnesses in earlier hearings before your committee, this condition prevails throughout the industry and is simply a manifestation of the increasing difficulty—and of course higher cost—of finding new oil fields, and incidentally is one of the most important reasons why an increase in the price of crude oil is necessary. It was brought out by independent witnesses that they can more than hold their own against the major companies in the finding of new oil fields, always provided that they have the wherewithal to do it, and the only way in which the independent producer can get or raise funds for his wildcatting, is through an adequate price for crude oil. In this connection, attention was called to the fact that there prevails among a good many people the mistaken idea that the "wildcatter" as a group is distinct from the "producer." While numerous exceptions can, of course, be found, it is a general rule that the producer is a wildcatter and the wildcatter is a producer, and when the producer receives a decent price for his oil he can obviously drill more wildcat wells then if he can barely make both ends meet. An adequate price for crude oil not only means that the wildcatter will have more funds of his own available for exploratory work, but also that he can count on much more liberal contributions from majors and other independents in connection with the various types of cooperative wildcatting ventures regarding which details were given to your committee.

Several witnesses testified that the number of independent operators is decreasing, partly because of their selling out to the major companies and partly because they have not been able to make a living with prevailing crude prices in the face of constantly rising operating cost. No specific figures were given on this score, but assuming that the statement is correct—and personally I believe it is—I think there are two main reasons for this condition; one, the low price of crude and, two, the increased cost of wildcatting. The former condition can be much more easily remedied than the latter. Many witnesses testified to the greatly increased cost of wildcatting in most areas due not only to the necessity of drilling to greater depth, but also to the greater volume and cost of the exploratory work which precedes the picking of a drill site for an exploratory well. No matter what the price of crude may be, obviously fewer people can raise the funds for the drilling of a wildcat well costing $200,000 (and many cost much more than that) than for a wildcat costing only $20,000, and the wildcat well that located the great East Texas field probably cost no more than that. I do not mean to imply, of course, that all wildcat wells now cost $200,000 or more, nor that there are not still some areas where shallow wildcats can be drilled for $20,000, but the trend toward greatly increased

cost of wildcatting is definite and will continue, and the greater the cost the fewer people will be able to engage in the business. It should be pointed out here, however, that there are in the group classified as independents many individuals and corporations who operate on a scale which allows them to meet this greatly increased cost of wildcatting, and I should also like to stress the point that a higher price for crude will augment the number of independents so situated.

The question of capital requirements for expansion of the independents' operations was brought up. It was pointed out in this connection that an exceedingly valuable byproduct of the State conservation laws for the independent has been the establishment of oil loans as an attractive field for banking operations. To quote from the paper of Mr. O. C. Bailey:

> Fortunately, conservation practices have established oil-producing properties as sound collateral, and bank loans on reasonable terms are generally available, and the independent is either availing himself of such loans or is using the reserves that he accumulated in prior years to carry him along into these years of low prices and high costs.

However, wildcat ventures as such are obviously not satisfactory collateral and the funds available for wildcatting depend on the price of crude.

I should like to stress here, Mr. Chairman, that this point that Mr. Bailey makes here has been of the greatest value to the independent producer with limited capital. Before the advent of conservation laws, if a field were developed in which an independent producer had, say, 160 acres leased, all around him everybody would be pulling out the oil as fast as they could and taking all the oil they could out of each well. This independent would then drill one well. The independent would drill his first well, and he would produce that well as fast as he could. He might produce 1,000 barrels a day or 2,000, or even 5,000 barrels a day. The result would be that he would soon get back the money he spent for that well, and put it in another one.

Now, however, with proration, a well that might be physically capable of producing 5,000 barrels a day is perhaps held down to 50 or 60 barrels a day. And if it were not for the fact that the independent now has access to the bank loans, he would be in a pretty bad fix, because his wells would cost him not only as much as before, but more, and he would only be able to take out the oil in driblets, so to speak. Now, he can go to the bank and the banks will lend him money on very favorable terms, because it is first-class collateral, and he can make an arrangement with the banks for the drilling up of his lease. It is usually done by drilling one well at a time with the understanding that when he finishes one well, he will get money for the next one from the bank, and that most of the money which he gets from the oil at the low rate it is being produced goes to the bank to pay off the loan. That has enabled the independent producer to take care of his work in the development and improvement of the field and prevent his lease from being drained by other companies around him. [Resuming prepared statement:]

Tribute was paid to the State conservation laws and a request from the chairman of this committee for suggestions regarding their improvement failed to bring forth any specific recommendation. Nobody claimed that either the laws or their administration are as yet

perfect, but it was stated that both the laws and their administration and enforcement are showing steady improvement. A few of the oil-producing States are still without conservation laws.

Several of the independent witnesses before you raised a warning against the importation of foreign oil to the detriment of the domestic industry. It was stated that the present import duty of approximately 10 cents per barrel affords the domestic producer insufficient protection. It was pointed out that if large quantities of foreign oil are brought into this country at low prices, it will not only mean the abandoning of many thousands of small, high cost wells, and the bankruptcy of their owners, but will mean the loss of enormous quantities of oil underground in the abandoned wells, which can never be recovered. Furthermore—and from a national viewpoint this is a most important phase—this condition would lead to the practical paralyzation of exploration and wildcatting by the independents, and incidentally to a great reduction in these activities by the major companies. In the case of an emergency, the country would then be practically dependent on foreign oil. None of the independent witnesses took the stand that all importation should be stopped, and it was pointed out that we have always imported oil into this country. On the other hand, none of the representatives of the major companies who appeared before you has advocated bringing in foreign oil to the extent of depressing the domestic industry. All of them have their major market in the United States and it would not be to their interest deliberately to destroy it. I believe practical unanimity within the oil industry will support a program with respect to imports which will limit the flow of foreign oil to this country to the quantity necessary to cover any possible gap between our total domestic demand and the full domestic production, operating our wells at the maximum efficient rate of production in accordance with best engineering practices. This involves the maintenance of a domestic price level for oil which will allow the domestic industry to operate as a healthy, vigorous, going concern, and carrying out a continuous, active campaign of exploration and wildcatting in the search for new oil fields within our own borders, together with a continuous, energetic program of research and development in all branches of the industry.

Mr. Fraser. On occasion we are hearing rumors that if the price of oil were allowed to go up, it would go sky-high, and therefore that the OPA controls should not be taken off, or should be taken off very gradually. But would it not be true if the price went up, as some dream that it might, that a complete check would be found in the increased importation of oil, which would take place and hold the price in line.

Mr. Jacobsen. Undoubtedly. In order for oil to go up any considerable extent, there would have to be a shortage of oil.

Senator Moore. Which there is not?

Mr. Jacobsen. Which there is not. There is, if anything, an oversupply.

Senator Moore. Yes.

Mr. Jacobsen. And that would be the only thing that would make it go up. The only thing that could make the price of oil go up to that extent would be if we got rid of OPA, as I hope we may, and then if all of the State conservation bodies were to enter into a combination in restraint of trade and greatly reduce the production in all the States.

It is inconceivable that that would happen. In other words, it would only be a shortage of oil that would bring it about, and that shortage of oil could be checked by the means you have just mentioned.

Mr. FRASER. Of course, if the regulatory bodies were to enter into such an unlikely combination, the President under the powers that he had at the time the Interstate Oil Compact went into effect, has the right, does he not, to allow foreign oil to come in to correct the situation?

Mr. JACOBSEN. He does not have to allow anything. That door is open now, if you pay only 10 cents per barrel as duty on it.

Senator MOORE. That idea would be preposterous, anyhow. It would be against the self-interests of the States.

Mr. JACOBSEN. Utterly. I think it is impossible.

The CHAIRMAN. The chairman has received the following telegram which I think probably is appropriate at this stage of the proceedings. It is from Austin, Tex.

> The Railroad Commission of Texas in regular conference respectfully calls to the attention of your committee the fact that at the present time there is no shortage or scarcity of crude oil but that production is in excess of consumption, as is evidenced by the excessive stocks in storage above ground; that these stocks have been steadily increasing since VJ-day, and that there has been a corresponding increase of gasoline being stored above ground which is evidence of excess production of gasoline above current consumptive demand.
>
> The Railroad Commission of Texas therefore urgently requests that your committee take such action as will terminate the continuation of price controls on both crude oil and its products.
>
> [Signed] RAILROAD COMMISSION OF TEXAS,
> By OLIN CULBERSON, *Chairman.*
> BEAUFORD H. JESTER, *Commissioner.*

Senator MOORE. Will the chairman introduce a motion to that effect?

Mr. JACOBSEN. I will second it. [Laughter.]

The CHAIRMAN. Let me see if the OPA is still represented here. Is Mr. Reppert present this afternoon? [No response.]

The CHAIRMAN. He was here this morning.

What would be the effect if price controls were lifted on crude oil, at the present moment, in your judgment?

Mr. JACOBSEN. Do you mean literally what you said, Mr. Chairman, only on crude oil?

The CHAIRMAN. Yes.

Mr. JACOBSEN. And leaving the controls on refined products?

The CHAIRMAN. Let me include those.

Mr. JACOBSEN. I ask that because it makes a difference in my answer to your question.

The CHAIRMAN. Let me include all petroleum products.

Mr. JACOBSEN. If I were to gaze into the crystal ball and make a guess, I would say that something like this would happen. An unbalanced condition has been created, as has been testified by a number of witnesses, due to the price regulations of OPA. Certain products have been relatively overpriced, and others underpriced. There might be for a very short period, perhaps a week or two at a guess, a severe drop in the price of one thing and a higher price in others. But within a week or two at the most, in my opinion, just as soon as the refiners can get around to adjust themselves to the free economy instead of the controlled economy, we would settle down on a basis

where there would be enough products of all kinds without much higher prices.

Senator MOORE. What would be the effect on crude oil?

Mr. JACOBSEN. On crude?

Senator MOORE. Yes.

Mr. JACOBSEN. I think they would increase the price of crude because the economic condition demands it. Crude oil has been underpriced for years. There would be a natural increase in the price of crude. I would not guess how much, but it would not be anything exaggerated. There would then be a corresponding increase in the price of refined products, which work out at a very small figure per gallon, a half-cent or a cent on the various products, and then we would be settling down on an even keel and going along happily from then on.

The CHAIRMAN. If it is to be assumed that the statement in this wire from the Texas commission is correct, and that there is a surplus of crude oil, how high would the price go if price controls were lifted, if there is a surplus?

Mr. JACOBSEN. Of course, when you say there is a surplus, there is a surplus of producing capacity. That is probably what they mean.

I am not acquainted with the precise statistical figures with respect to the volume of oil that goes into storage, but in the normal condition of affairs, you may find that storage will be increased for a few weeks, and then storage will be decreased. We are going into the heavy consuming season now, when there will be a heavier draft on crude than there has been during the winter period; and I think that first of all crude during the war period was drawn down below what would be normal stocks.

Before the war, we carried as a general condition in the industry, larger quantities of crude in stock than we are doing now, and it would tend to build up that storage to some extent. All of the large refining companies usually have a substantial amount of reserve of crude in stock. It might build up some of that.

The CHAIRMAN. The situation which is described to us is this, briefly:

(*a*) We have surplus stocks of gasoline.

Mr. JACOBSEN. That is correct.

The CHAIRMAN. (*b*) There is not enough fuel oil and some other derivatives.

Mr. JACOBSEN. That is also true.

The CHAIRMAN. (*c*) There seems to be a surplus capacity for crude oil, if not an actual surplus of crude itself.

Mr. JACOBSEN. Quite right.

The CHAIRMAN. It is stated that the 10-cent increase recently announced by OPA is not enough.

Mr. JACOBSEN. That is right.

The CHAIRMAN. My question, therefore, is what reason is there to suppose, in view of these conditions which I have just described, if controls are lifted, that the demand for fuel oil and other derivatives would equalize with the excess of gasoline in such a fashion as to create such a demand for crude oil as to increase the price without Government intervention?

Mr. JACOBSEN. First of all, the reason for the oversupply of gasoline and the shortage of certain derivatives has been mainly the action of OPA in imposing a strict price schedule and not allowing the natural forces of supply and demand to work as usually happens during the fall and winter season.

Secondly, the reason why we would get an increase in the price of crude is not so much the fact that the increase would be necessary in order to bring about the producing capacity, because we have the producing capacity; but it is the recognition of the fact which I believe exists on the part of all major companies and independents as well, who buy oil, namely, that oil has been undervalued. We are selling oil at less than replacement cost. And those major companies are, in that respect, in exactly the same boat as the independent. They all realize that the price is too low, that we cannot replace the goods on our shelves at the price at which we are being paid. That, I think, will be the main reason why we will get a price increase.

Senator MOORE. Wouldn't that rise in the price of oil be an inducement for further exploration and adding to the reserves of the country?

Mr. JACOBSEN. Certainly.

The CHAIRMAN. There is not any doubt that an increased price of oil would bring that about. But the problem here is whether or not we would get an increased price of crude by the ordinary play of economic forces without Government intervention if OPA were lifted.

Now, it means nothing to say, it seems to me, that the price of oil is less than the replacement cost, because if there is not sufficient demand for the products of crude oil, then the mere fact that replacement cost is not being obtained would not induce any purchaser to pay replacement costs.

Mr. JACOBSEN. I think it would, to some extent.

The CHAIRMAN. Long before the OPA ever came into existence, the price of oil dropped to very low levels under the ordinary economic laws.

Mr. JACOBSEN. That is quite right.

The CHAIRMAN. So that when you lift Government controls of any kind, then you restore the ordinary economic law.

Mr. JACOBSEN. That is right.

The CHAIRMAN. Then the producer of crude oil must depend upon a market for his price.

Mr. JACOBSEN. That is quite right, sir. The greatest increase in the replacement cost has taken place during the last 5 years, while we have been under OPA control.

The reaction, in my opinion, of the crude oil buyers, the refiners of the country, would be this: It is to their long-view interest to have more exploration carried out. It is to their own interest to carry out more exploration themselves. If you take the ordinary independent producer, you have, roughly speaking, this situation. He has a certain income which is derived from the crude that he sells. He has certain expenses which he must meet. He has to pay his staff, the light bill, the telephone bills, office rent, taxes, operating expenses, and so on. Then he has to pay himself a salary or dividends on his stock, in whichever form he is taking his living expense. Then, generally speaking, what is left over after paying his necessary expenses is what he has

available to look for new oil. And that is where most of it goes. Then, when he has more money available, he goes and drills more wells and takes more leases. That brings about the finding of more oil, which the industry as a whole is interested in. And the interest in that respect of the mojor companies is the same as that of the independents, on a bigger scale, but fundamentally the same. My firm conviction is that if OPA lifts its price control, the major companies, followed by the independent refiners, would say, "Oil is undervalued, and we will raise the price."

Just what the figure would be, I do not know. It would not be anything exorbitant. They would then sell gasoline at a slightly higher price, and with 42 gallons in a barrel, it does not take much of an increase per gallon of gasoline to provide for the increase in the price of crude. They would raise the price of refined products proportionately, and we would see an acceleration of exploratory efforts throughout the country.

That is my idea of what would happen.

The CHAIRMAN. Thank you.

Mr. ENGLAND. Mr. Chairman?

The CHAIRMAN. Mr. England.

Mr. ENGLAND. The remark that you made a while ago about what would happen if prices were increased in this country called my attention to this item. This is from the Federal Trade Commission report of 1927, on Prices, Profits, and Competition in the Petroleum Industry, page 113:

> In 1920 crude-petroleum prices were advanced in January and early February and maintained throughout the year at the highest level ever attained since the earliest years of the petroleum industry. Production increased gradually from 34,000,000 barrels in January to almost 39,000,000 barrels in December, a gain of nearly 15 percent.

That was under the stimulus of high prices. [Continues reading:]

> Net imports showed an even greater increase from 5,825,000 barrels in January to 12,023,000 barrels in December, or about 106 percent.

That statement made here a while ago is absolutely what would be repeated. If the price were increased here, there would be a flow of imports.

Mr. JACOBSEN. You mean if the price were increased disproportionately?

Mr. ENGLAND. That is right. Even if it was increased at all, you would probably have some increase of imports.

Now, here is one thing that I have not seen mentioned by anyone in these hearings, and the Commission was so impressed with it that it quoted (p. 108) from Walter C. Teagle:

> Under date of March 12, 1927, Walter C. Teagle, president of the Standard Oil Co. (New Jersey), called attention to the significance of crude petroleum stocks in part as follows:
>
> "There are three principal statistics of equal importance. These are the figures showing stocks above ground, current production, and current consumption. Almost everyone in the oil business is familiar with the figures as to the latter two, but few indeed pay any attention to the first item. Just as soon as a barrel of oil has been paid for and put into storage it ceases to exist in our minds, and yet as a matter of fact this is one of the three legs of the tripod on which the price structure rests. It was the industry's failure to keep this leg of the tripod in adjustment with the other two that caused the present upset. The purchasing companies and the refiners are paying the bill for carrying this oil, but they must

pass along a share to the producers in the form of price changes at the wells. Of late years, the slightest excess of consumption over production has served to stimulate renewed efforts to bring in more wells, with the result that the industry is keeping itself poor by an overproduction which makes for low prices, while it is paying more than $130,000,000 a year for carrying a reserve above ground which has not been used as a reserve.

Senator Moore. That has changed altogether. That whole policy of excess storage is entirely changed, and is not being practiced any more.

Mr. England. Yes, I know, but we still have stocks sometimes. As I understand now, Senator Moore, gasoline stocks are very heavy. It does not make any difference whether the industry carries it as crude or as refined products, but carrying stocks is an expensive luxury.

Senator Moore. It is so expensive and so uneconomical that it is not practiced, of course, as much as it was at the time he was making that statement.

Mr. Jacobsen. That is right.

Mr. England. That is true.

The Chairman. As this telegram indicates, there are stocks of gasoline.

Mr. England. There are stocks of gasoline now.

Mr. Jacobsen. Yes, sir.

The Chairman. And the Texas commission seems to feel that there is some sort of surplus of crude. I think it would be an interesting thing if we could find out approximately what the situation is today with respect to stocks of crude, current production, and current demand, and the same with respect to the other oil products.

Senator Moore. Hasn't the railroad commission attempted to cut back production considerably in the last few months?

Mr. Jacobsen. Yes, sir; they have.

Senator Moore. So the stocks of crude oil, while they may have built up, are not built up excessively.

Mr. Jacobsen. I would say not, and furthermore I would point out that it is a normal situation to increase gasoline stocks at the beginning of the heavy consuming season.

Mr. England. That is right.

Mr. Jacobsen. That is, during the spring and summer.

The Chairman. Do you have any figures on that?

Mr. Jacobsen. I do not, sir.

The Chairman. Do you, Mr. England?

Mr. England. I have nothing up to date, sir.

The Chairman. How about the Army, Colonel Wright?

Colonel Wright. Mr. Chairman, the stocks of crude in storage have been increasing week by week, not to any large extent.

The Chairman. Do you have any current figures on it?

Colonel Wright. Not with me, no.

The Chairman. But you have them in your office?

Colonel Wright. Yes, sir.

The Chairman. Would you provide them for the committee?

Colonel Wright. Yes, sir.

The Chairman. And Captain Franchot, does the Navy have current statistics on this question?

Captain Franchot. I think the figures for the Navy are made up jointly with the Army. This whole subject is handled jointly.

The CHAIRMAN. Mr. Boyd, how about the American Petroleum Institute?

Mr. BOYD. Yes; we have them.

The CHAIRMAN. The committee will appreciate getting the report on that.

Mr. BOYD. Mr. Chairman, may I just say here in that connection, gasoline stocks are higher than they have ever been in the industry's history, about 105,000,000 barrels now, as compared with normal stocks of about 90,000,000. There is a surplus of crude in storage. There is a shortage of fuel oil, burning oils, for the Navy and the War Shipping Administration. In order to get the type of crude to make that, you have to get heavy crude; otherwise you increase these gasoline stocks.

Now, the present price of gasoline is three-fourths of a cent below the OPA ceiling, and gasoline is running out of everybody's ears at the present time. If you go and make fuel oil for the Navy and the War Shipping Administration, you have to make some more gasoline. Therefore, the tendency would be to increase the price of fuel oil and lower the price of gasoline, even if the price of crude went up.

The crude oil that is in storage does not provide the type of crude that is needed to make this fuel oil, and overcome the short stocks of fuel oil. There has to be some heavy crude pulled out of the ground for that purpose. Otherwise, if you take the light content crude that is full of gasoline, in order to get a small quantity of fuel oil, then you continue to drive up your gasoline stocks, which drives down your price of gasoline.

In your over-all picture, even though you would have an increase in the price of crude, which you would have if you took the ceilings off, probably, as Mr. Jacobsen said, in a very short time, the whole thing would level out. Some would go up and some would go down. But there is no earthly reason why OPA should not increase the price of crude tomorrow, and if they do they would get all the fuel the Navy and the merchant marine need.

Senator MOORE. And the prices on the products?

Colonel WRIGHT. Yes.

Mr. BOYD. Yes.

Mr. ENGLAND. Mr. Boyd, the tendency should be to increase the heavy crudes?

Mr. BOYD. That is right, of course. At the present time, the industry cannot increase these crudes without going in the red, and it is one of the biggest and most serious problems in Washington today.

The CHAIRMAN. Captain Franchot, that was your statement the other day?

Captain FRANCHOT. Yes, sir. All I can do now is to emphasize it.

The CHAIRMAN. And, Colonel Wright, you also made that statement?

Colonel WRIGHT. Yes.

Mr. BOYD. Colonel, the Army and Navy Petroleum Board could give us these figures in 15 minutes if somebody would ask for them.

Colonel WRIGHT. Yes; we have them down there.

The CHAIRMAN. If you will provide them for us, we will appreciate it.

You may proceed, Mr. Jacobsen.

Mr. Jacobsen. Thank you, sir.

Questions were asked regarding the practical means of determining and regulating the volume of foreign oil that should be imported into this country, bearing in mind that such a system would of necessity have to be flexible to meet changing conditions. The suggestion was made that it would probably have to be some combination of tariff or excise tax together with a limitation on volume. Mr. H. B. Fell made the specific recommendation that an import program be formulated by the State Department in conference with representatives of domestic producers and the importing companies.

The extension by the farm cooperative societies into the oil business came in for considerable discussion. It was pointed out that they are not only engaged in the marketing of gasoline and other oil products on a big scale, selling not only to their members but to the public at large, but that they have gone into all the other branches of the business—producing, transportation, and refining. None of the witnesses took exception to the original objective of the farm cooperatives, but the claim was made that they have gone much further than is justified and that they enjoy such special advantages with freedom from income taxes and in many other respects, that they are in a privileged and entirely unfair competitive position *vis-à-vis* the independent operator.

Practically each and every one of the problems of the independents as stated before your committee goes back to the one question of price. A better price would enable the independent to increase his exploratory activities; it would prevent the premature abandoning of stripper wells; it would permit the employment of secondary recovery methods in a great many fields, and the same matter of price is, of course, back of the fear of excessive imports of foreign oil. Evidence was produced before your committee showing that the price at which crude oil was frozen throughout the war period has been disproportionately low in relation to other commodities, and detailed evidence was furnished showing the continuous, unrelenting, but unsuccessful efforts since July 1941, to get the OPA to lift the ceiling. A paper read to you by Mr. Merle Becker shows 40 different individual actions between July 1941 and June 1945 by the independents and others in connection with the efforts to secure a better price for crude. All witnesses agreed that the small increase of 10 cents per barrel which has recently been granted and which will go into effect on the 29th of this month is wholly inadequate. It was also pointed out to you that the rigid ceilings imposed by OPA on various refined products have created serious shortages in some products and surplus production in others, and all the industry witnesses who touched on the subject made a strong plea for the immediate and total withdrawal of OPA's authority over the oil industry. It was pointed out to you that the highest authorities within the OPA have repeatedly stated that there is no cause for price control in an industry which is able to supply the full public demand for all its products, and that the oil industry finds itself in this position.

The situation of the independent refiners and the particular problems with which they have to contend were presented to you by Mr. Fayette B. Dow. While some of the independent refiners are partially integrated, the typical independent refiner as described by

Mr. Dow, is one who "buys the greater part of his crude oil from independent producers, refines it and sells it to the independent marketers, through whom it reaches the consuming public." With no production of his own on the one hand, and no retail marketing outlets on the other, the independent refiner frequently finds himself in a difficult position which is accentuated in periods of a tight crude oil market. The point was made that whereas the integrated companies usually locate their refineries near their market or on the coast, the independent refiner has generally placed his plant at or close to the point of production, although one witness stated that while this was true in the past, the more recent trend among independent refiners is to follow the example of the major companies with respect to the location of their plants. Mr. Dow spoke of small independent refiners who frequently locate their plants at or close to new large oil fields. While crude is plentiful such refineries enjoy a temporary measure of success, but when the supply of crude available to such refineries is cut down either by the natural decline of the field or by increased demand, such refineries find themselves in a serious situation and are frequently forced to shut down. It is undoubtedly a fact that many such refineries were never economically justified and should not have been built in the first place. Mr. Dow made it clear that the statements in his paper do not have reference to refineries of this type.

Mr. Dow emphasized that the refining business requires a considerable outlay of capital, and said that—

> A typical independent refining company may have an investment of 2 or 4 or 6 million dollars, or more than that; but it would still be a small enterprise, a hazardous and marginal enterprise, compared with its major company competitors.

These independent refiners process approximately one-sixth of the total crude oil refined in the country. Mr. Dow called attention to the difficulties in which the independent refiners will find themselves if an increased price in crude is not accompanied by corresponding advances in refined products and if excessive imports of crude oil should upset the domestic market.

With reference to the competitive position of the independent refiners as against the major companies, I quote as follows from Mr. Dow's testimony:

> To one who has observed the changes in the oil industry over a considerable period of years and has read the still earlier history, there is a significant fact which is revealed in this correspondence. It is that the antagonisms, the ill feeling, indeed the bitterness, which were common among the independents of 40 years ago, against the single major oil company of that day, no longer appear. The competition of today is intensely keen; the going is hard at times for the independents, to attain success or even to survive; there are practices, chiefly in the marketing field, which some independents regard as uneconomic or unlawful, or both. But the record indicates that the competition, although tough, has been progressively cleaner. There is no charge of malice. No one has written me suggesting that the executives of the major oil companies are sitting up nights planning evil ways of putting the independents out of business.

Statements made to you by Mr. Charles R. Bell emphasize the paramount importance of maintaining and confirming the tax provisions which have been in effect for more than a quarter of a century and on the basis of which the oil industry has been built; namely, the statutory depletion allowance and the right to charge off intangible drilling costs currently. Mr. Bell stressed the importance of permanence and stabil-

ity of such tax provisions and called attention to the serious consequences of sudden changes made administratively by the Bureau of Internal Revenue, as for instance, in their sudden reversal 3 or 4 years ago of the deductibility of geological and geophysical expenses. It was recommended that the deductibility of such expenses as well as of intangible drilling costs, be specifically embodied in the tax law.

A number of independent witnesses made a strong plea for a permanent price differential in favor of production from stripper wells, by means of some sort of Federal subsidy. It was claimed in favor of this proposal that such subsidy is necessary to allow the stripper-well operator to continue in business, to enable him to apply modern secondary recovery methods, and to avoid the premature abandonment of many thousands of stripper wells with billions of barrels of oil. Some witnesses stated that an adequate price for all crude would solve the stripper-well problem, but others took the stand that they felt satisfied the general crude price would never be high enough and that a differential in favor of stripper oil should be maintained irrespective of the general price for crude.

Against this principle of a special subsidy for stripper oil, the arguments were made that the proposal is economically unsound for the reason that stripper oil is not worth more than other oil and therefore should not carry a higher price; that such special treatment for stripper oil would in effect be Government price fixing, which was not favored by any of the witnesses; that it would place a premium on inefficiency since no matter where the dividing line between stripper and non-stripper wells is placed, there will be a vast number of cases fairly close to the border line where the producer will get more money for producing less, and where there would consequently be a penalty on improvement of production methods, and that the proposal would be unfair to one producer with wells slightly above the stripper class while his neighbor's wells producing a few barrels less per day would be in the stripper class and consequently benefit by a special bonus.

Mr. Fraser. Mr. Jacobsen, if the subsidy were to take the form of being paid on all the oil produced from every well in the country, up to so many barrels——

Mr. Jacobsen (interposing). Per well?

Mr. Fraser. Per well.

Mr. Jacobsen. Per day?

Mr. Fraser. Per day.

Mr. Jacobsen. Yes, sir.

Mr. Fraser (continuing). And then no subsidy from that point on, then would there be an inducement to the stripper operator to keep on producing?

Mr. Jacobsen. Yes; but there would not be, when you got to the level at which point the stripper well stops.

The Chairman. If you stopped at five barrels, then, the six-barrel producer would be out of luck?

Mr. Jacobsen. Precisely. If you stop at 10, then the 11-barrel producer would be hurt.

Mr. Fraser. No; the six-barrel producer would get the subsidy on the first 5 barrels.

Mr. Jacobsen. Yes; but then he would be better off to produce only 5 barrels. There is only a certain quantity of oil underlying his prop-

erty. Suppose, for instance, an independent producer has an 80-acre lease. Let us assume he estimates that there are 3,000 barrels per acre underlying his lease. That is a total of 240,000 barrels. He will figure, then, that in the course of time he will get out 240,000 barrels, and he cannot get any more because there is not any more. He would be better off, in the case that we have mentioned, by producing only the oil for which he will get the higher price, and leave the other to come later on, because if the stripper bonus is, say, 50 cents a barrel, he would be getting that much more money for the oil that is produced at the low level.

My personal objection to it is largely the one that I mentioned, that it puts a premium on inefficiency. The whole tendency, the whole trend of oil production, and refining as well for that matter, has been improved technology. We have all bragged about it. The major companies, the independents—we were not particularly modest, either, about claiming our share of the credit for advancing technology—all bragged about it. We claimed that one of the reasons we wanted the higher price for oil is to enable us to continue all these technological improvements. Now, then, to have a situation where you put a premium on producing less, where you stifle that effort, at least in respect to a certain segment of the industry, to my mind runs contrary to common sense.

Senator Moore. That is a pretty strong statement.

Mr. Jacobsen. Do you disagree with it?

Senator Moore. I do not disagree with it, but there are some pretty substantial men who testified on that proposal.

Mr. Jacobsen. That is right. I want to give my own opinion. Theirs is probably better than mine, but I am here to give my opinion.

Senator Moore. No; I do not disagree with you. I agree with you 100 percent.

Mr. Jacobsen (resuming). A stripper well was defined as one in which current income and expenses are practically in balance, and it was pointed out that whereas practically every gusher in time becomes a stripper well, not every stripper has been a gusher, and it was also made clear that not all stripper wells are susceptible to the successful application of secondary recovery methods.

Mr. Fraser. That puzzles me a little. Supposing a well produces 2,000 barrels a day, but the expense of getting it out just balances the income. You would not call this a stripper well?

Mr. Jacobsen. It could not happen in the case that you mention. I mean, you could not possibly have a well producing as much as 2,000 barrels a day that would not pay.

Mr. Fraser. Take a lower figure; take 150 barrels.

Mr. Jacobsen. You could have that. Suppose you had a well that was quite deep that produced a lot of water with the oil and still did not have enough hydrostatic pressure to flow. Then you would have to pump the oil from a considerable depth, and might have to pump 4,000 barrels of water in order to get the 150 barrels of oil. I admit it would be rather an extreme case, but you could have a case like that where, even with 150 barrels a day, you would still be barely balancing.

Mr. Fraser. And would that be a stripper well?

Mr. Jacobsen. That would be a stripper well.

Senator Moore. That would be a hardship well, as interpreted by OPA.

Mr. JACOBSEN. Yes; by OPA. But it would be a stripper well under the definition made by one of the independents the other day where he said that a stripper well is one in which income and outgo are just about in a balance. So, in that case, that would be a stripper well.

Captain FRANCHOT. Of course, you might have such a condition existing where you are pumping purely to protect another property, to keep your water from encroaching on it.

Mr. JACOBSEN. Quite true.

Captain FRANCHOT. I was just clarifying your definition so there would not be any question about it.

Mr. JACOBSEN (resuming):

Bearing in mind that practically all wells in time become strippers, the question was asked how the ownership of the stripper wells of the country is divided between independents and majors, but no information was available on that score.

It was pointed out that while a higher price for crude oil will clearly prolong the productive life of stripper wells, all wells will eventually have to be abandoned with some oil left underground no matter what the price of crude may be within reasonable limits.

On this subject of a permanent subsidy for stripper well production, Mr. H. B. Fell, who summed up the testimony of the independents, made the following recommendation:

> An appropriate, Government agency might be authorized to make a study to determine whether stripper well reserves are of sufficient importance to our national defense to justify any program to prevent their abandonment and to encourage secondary recovery operations when crude oil prices reach too low a level under free competition and, if so, to recommend specific means of accomplishing the desired purpose.

One subject to which only slight reference was made during the hearings is, I think, worth a few remarks. I have reference to the fear prevalent in many quarters in the oil-producing industry that the Federal Power Commission will endeavor by means of a flank attack on the industry to secure direct or indirect control of oil production. It is feared that the Federal Power Commission may ask Congress for extension of its authority to include control at the well of the gas which is produced in association with oil. If this authority were granted to the Federal Power Commission, it would in effect control the production of oil. If the Federal Power Commission should endeavor to secure such extension of control in any form, the oil industry hopes that Congress will strongly sustain the principle that this subject is a matter solely under State jurisdiction.

The CHAIRMAN. What is the basis of this fear?

Mr. JACOBSEN. The general behavior of the Federal Power Commission.

The CHAIRMAN. You are not blaming the Federal Power Commission for the sins of OPA?

Mr. JACOBSEN. No; that is not necessary. They have enough of their own. I do not have to go outside their sphere.

They have shown, as we in the oil industry see it, a tendency for years of extending their authority and grabbing more and more jurisdiction. They have been paying special attention to the question of production. They have asked a lot of questions about production and production methods and production costs. It just looks very suspicious, and we are afraid of it.

The CHAIRMAN. There is a great capacity for suspicion abroad in the country, is there not?

Mr. JACOBSEN. Yes.

Mr. ENGLAND. Mr. Jacobsen, going back to stripper wells for just a moment, a stripper well is somewhat like the poor, is it not? We always have them with us. At any price level, you will always have some that are just beneath the level.

Mr. JACOBSEN. That is quite right, whatever it will be.

Mr. ENGLAND. So this recommendation here for real study, it seems to me, is very constructive.

Mr. JACOBSEN. What you say is right. There have always been stripper wells, wherever you put the limits.

Mr. ENGLAND. Yes, sir.

Mr. JACOBSEN. To resume my statement, with regard to a national oil policy:

RECOMMENDATIONS REGARDING A NATIONAL OIL POLICY

A considerable number of recommendations were made by the many witnesses who have appeared before you during this whole series of hearings, and it is largely a matter of opinion how many of these recommendations are of sufficient importance to be embodied in a general declaration of basic policy. I think it is fair to say that the undeclared but effective policy which has evolved in the oil industry is generally considered satisfactory by the representatives of the industry, independents and majors alike. Specific reference to this subject was made by Mr. Russell B. Brown, general counsel of the Independent Petroleum Association of America. After outlining the principal elements of the de facto policy which has evolved in the industry, Mr. Brown stated the following:

> The foregoing are some of the broader aspects of what we may well consider our national oil policy as it has existed. It is my belief that such policy needs little elaboration or change at this time beyond the revision of laws on leasing and development of public lands and assurance that oil imports will not be permitted to weaken our domestic industry.

Mr. O. C. Bailey also dealt with this subject in the following terms:

> Will the Congress, which is vested with the authority and responsibilty for formulating a national oil policy, heed the advice of the petroleum industry as contained in the statement of policy adopted by the Petroleum Industry War Council appointed by the Petroleum Administrator for War and endorsed by practically every oil operator in the Nation and preserve the laws, regulations, and procedures that have been proven to be sound? Or, will it follow the inexperienced advice of those who would impose upon what has proven to be the most dynamic industry in our country their pet theories on taxation, regulation, Federal Government participation and competition in world commerce?

At the request of the Petroleum Administrator for War, the Petroleum Industry War Council gave considerable time and attention to the formulation of a national oil policy and appointed a national oil policy committee to deal with the subject. The result of these efforts is embodied in a pamphlet entitled "Actions by Petroleum Industry War Council Pertaining to a Petroleum Policy for the United States," a copy of which I should like to have added to the records of these hearings. You will notice that the recommendations relative to a national oil policy for the United States are divided into three sections, namely, "A Foreign Oil Policy for the United States" (p. 3 of the pamphlet),

"A National Oil Policy for the United States" (p. 7), and "Supplement to the Preliminary Report on a National Oil Policy for the United States" (p. 10). A mimeographed page in front of the pamphlet shows the final approval of the Petroleum Industry War Council of these three sets of recommendations by resolution of October 24, 1945. These recommendations have been given the widest publicity throughout the oil industry, and I am not aware of any opposition voiced against them in any quarter.

Mr. FRASER. Mr. Jacobsen, this pamphlet has already been printed in the hearings of the committee, with the exception of that resolution of October 24, 1945. Would you like to add that to the record, that resolution?

Mr. JACOBSEN. Oh, yes, definitely. And I do not know if it can be done, but I would really be quite anxious to have this appear in conjunction with the others, so that anyone looking at one would have the other ready. I do not know how that would be.

Mr. FRASER. You mean the resolution of October 24, 1945, to be inserted at the point that the pamphlet was printed?

Mr. JACOBSEN. Certainly.

Mr. FRASER. I do not believe that is possible.

Mr. JACOBSEN. Can you print it again, then?

The CHAIRMAN. It may be received as an appendix to the present hearing. I think that will solve it. [*Infra*, p. 427.]

Mr. JACOBSEN. All right.

I should like to make the following short synopsis and paraphrasing of what I consider the most important elements of the recommendations embodied in the pamphlet referred to, it being understood that the word "oil" also applies to the production of natural gas:

(1) The oil industry should remain a free, private, competitive enterprise, furnishing its own capital, and managed by private initiative.

(2) The conservation or efficient utilization of our oil resources, and the avoidance of waste, are matters of exclusive State jurisdiction.

(3) Continuation and positive affirmation of the Federal tax provisions in effect for many years, relating to statutory depletion, expensing of intangible drilling costs, et cetera.

(4) Continuation of the so-called Connally hot-oil law, forbidding the use of interstate means of transportation for oil produced in violation of State laws and regulations.

(5) Continuation of the interstate oil compact.

(6) An import policy which will permit the establishing of a price for crude oil high enough to encourage active exploration, full production, and technological development by the domestic producer, but not so high as to prevent foreign oil from supplementing our domestic requirements at reasonable prices, if at any time our full production at maximum efficient rates should not be sufficient to meet the demand.

(7) American nationals operating abroad should be assured of the strong and active diplomatic support of their Government in their operations in foreign countries. The American Government should promote and facilitate international agreements to further this objective.

The CHAIRMAN. I assume, Mr. Jacobsen, with respect to recommendation No. 1, you would say that Federal laws which are designed

to prevent combinations or conspiracies in restraint of trade should be enforced?

Mr. Jacobsen. Oh, yes; certainly. [Resuming:]

It is scarcely necessary to stress to this committee that the oil-producing industry is a continuous and long-term operation involving geological and geophysical exploration, acquisition of leasehold, drilling of wildcat wells—most of which will be dry—and development of proven fields. Any important change in the national policy which would cause a disruption in this continuity, and above all which would cause a serious diminution in the exploratory effort, could have most serious consequences for our security in the unhappy event of another emergency. It was the fact of our having in times of peace developed a strong, vigorous, healthy oil industry that enabled us to supply the oil needed for the last war. If, as a result of any unwise change in policy, this industry should be allowed to languish and deteriorate, the consequences to our security would be serious indeed. New oil fields cannot be delivered on short notice in case of an emergency, no matter how much money the country is willing to spend.

I would like to say just one or two words in explanation of that. If we go into a period of emergency, for instance, with an insufficient number of airplanes available to us, then by appropriating the necessary amount of money, setting aside the necessary amount of material, and supplying the necessary number of men, you can budget in advance, and we can say that if we have so much money and if we have so much material, in 12 months we can make so many planes; in 18 months we can make so many; and in 2 years so many planes.

If we find ourselves with insufficient oil productive capacity; if, for instance, we have gone down to, let us say, a productive capacity of 3,000,000 barrels a day, and we find that we need 5,000,000; then nobody could possibly give the answer to the question as to when we will be able to supply 2,000,000 barrels a day more.

You could not go to the industry and say, "How much money do you want and how long a time will it take you to raise your daily production from 3,000,000 to 5,000,000 barrels?" It would be just in the lap of the gods. And I do not see that we can afford to take the chance.

I believe I can confidently speak for the whole American oil industry in saying that if the recommendations approved by the Petroleum Industry War Council by resolution of October 24, 1945, are adopted as the national oil policy of the United States, the American oil industry will be best enabled to continue to contribute its fullest share to our future national security, prosperity, and well-being.

The Chairman. Are there any questions? [No response.]

We have interrupted the presentation of your paper by frequent questions, Mr. Jacobsen. Perhaps the ability of the committee and those around the table to interrogate has been exhausted.

Mr. Jacobsen. That may have happened.

I would only like to add one more thing for the record, which I would like printed in large red letters, if that can be done. That would be to express our appreciation, Mr. Chairman and Senator Moore, and the other members of the committee, and Mr. Fraser, for the way in which you have conducted these hearings. It has been a pleasure to work with you. You have been interested in only one thing, namely, to get the facts. You have been utterly and completely impartial.

You have been completely fair. You have assisted the witnesses. There has been a complete absence of any of the manifestations that are frequently feared by businessmen in connection with a senatorial investigation.

The CHAIRMAN. We did not take any fingerprints, anyway.

Mr. JACOBSEN. You certainly did not, and if this is to be a fair sample of the way senatorial investigations are going to be carried out in the future, I think you will have to charge a heavy admission fee or something to keep people away, because they would love to come here.

The CHAIRMAN. Thank you, Mr. Jacobsen. You are very kind. The committee will take a bow.

(The following is the text of the pamphlet referred to by Mr. Jacobsen, *supra*, p. 425:)

ACTIONS BY
PETROLEUM INDUSTRY WAR COUNCIL
PERTAINING TO
A PETROLEUM POLICY FOR THE
UNITED STATES

RESOLUTION

Whereas, on January 12, 1944, the Petroleum Industry War Council approved sections I to V of the document entitled "A Foreign Oil Policy for the United States" dated November 5, 1943; and

Whereas, on March 1, 1944, the Petroleum Industry War Council approved a preliminary report entitled "A National Oil Policy for the United States" in which the principles and procedures laid down in the afore-mentioned document entitled "A Foreign Oil Policy for the United States" are recommended as an acceptable policy for the United States; and

Whereas paragraph 3 of article II and subsection (a) of paragraph 1 of article IV of the "Foreign Oil Policy for the United States" are more clearly restated and defined in paragraph 8 of section II of the National Oil Policy Report which sets forth the proper manner of dealing with oil imports into the United States to the extent that such imports may be necessary or advisable; and

Whereas the Petroleum Industry War Council now desires to state its final views with regard to a national oil and gas policy: Now, therefore, be it

Resolved, by the Petroleum Industry War Council that subject to the foregoing, the following three documents together constitute the recommendation of the Petroleum Industry War Council for a national oil and gas policy for the United States.

I. Sections I to V inclusive of the document entitled, "A Foreign Oil Policy for the United States," dated November 5, 1943.

II. A document entitled, "A National Oil Policy for the United States," approved by the Petroleum Industry War Council on March 1, 1944.

III. The document entitled, "Supplement to the Preliminary Report on a National Oil Policy for the United States," approved by the Petroleum Industry War Council on May 16, 1945.

Adopted: Petroleum Industry War Council, October 24, 1945.

RESOLUTIONS ADOPTED BY THE PETROLEUM INDUSTRY WAR COUNCIL
PERTAINING TO
A PETROLEUM POLICY FOR THE UNITED STATES

DECEMBER 9, 1943

The Special Committee on Foreign Oil Policy has examined the report of the Foreign Operations Committee of the Petroleum Administration for War and endorses the policies set forth therein, but desires more time for study and a

specific recommendation on foreign policy which will be presented to the Petroleum Industry War Council at its January meeting.

The committee recommends to the Council the adoption of the following resolution:

Whereas, in recognition of the fact that private capital and competitive enterprise have developed and will continue to develop vast foreign oil reserves as well as a great domestic oil industry which constitute a great and indispensable bulwark for national defense: be it

Resolved, That the Petroleum Industry War Council recommends to the Petroleum Administrator for War that the immediate war necessity and the continuing necessity for the acquisition, exploration, and development of foreign oil reserves by our nationals makes it imperative that our nationals be afforded all possible diplomatic protection in foreign lands; be it further

Resolved, That a foreign oil policy of the United States should have the support of the American people as well as the support of the American oil industry. It should extend to our nationals, operating in foreign countries, the encouragement and effective assistance of the American Government in their foreign oil exploration, development, or operation; be it further

Resolved, That the United States Government should under no circumstances acquire title or ownership or directly or indirectly engage in foreign oil exploration, development, or operation.

JANUARY 12, 1944

The Special Committee on Foreign Oil Policy has carefully considered the problem of foreign oil developments and has reviewed the document entitled "A Foreign Oil Policy for the United States," prepared by the Foreign Operations Committee, and recommends to the Petroleum Industry War Council the approval of the following report: viz,

1. That the oil resources of the world can best be developed by private enterprise under a free economy;
2. That a foreign oil policy should be established at once by the United States;
3. That such a policy should involve strong support by our Government to our nationals who are willing and able to play an important role in the development of the oil resources of the world;
4. That our Government should not participate either directly or indirectly in the ownership or operation of foreign properties;
5. That the report of the Foreign Operations Committee is a sound and constructive presentation of the opinions held by this committee.

That report outlines the factors that create an international oil problem; emphasizes the special interest of the United States in oil; presents in some detail the principles that should underlie a sound foreign oil policy; and outlines those aspects of the problem that require immediate attention as well as those which should be dealt with under a long-term policy. The report vigorously presents the advantages of private enterprise in foreign oil development, points to the great achievements already made by American nationals in this field, and gives convincing arguments to show that direct or indirect participation by the United States Government in foreign oil developments will hamper the diligent and efficient prosecution of such developments, will be a long step away from democratic procedure, and will lead to endless political and international complications.

The committee finds itself in accord with the substance of the report and endorses its findings as expressed in sections I to V inclusive.

With regard to section VI which gives the design of a proposed international oil compact, the committee has not completed its study and expresses no opinion at this time. It feels that no immediate action on this particular point is required, as the nature and scope of this compact will in any event postpone its implementation until the world is again at peace.

The committee urges that the report of the Foreign Operations Committee be given the widest publicity both within the oil industry and among citizens in general. These matters concern not only the oil industry but the entire nation.

The Report of the Foreign Operations Committee of the Petroleum Administration for War, referred to in the preceding resolutions, is as follows:

A Foreign Oil Policy for the United States

FOREWORD

The Foreign Operations Committee, by virtue of the long experience of its members in foreign oil developments, its realization of the profoundly important role that oil is destined to play in postwar reconstruction, and its belief that world-wide oil developments by our own nationals will not only add to the security of the United States but foster the social and economic advancement of all peoples, herewith presents a program of principles and policies designed to advance the interests of the United States, to aid in the constructive development of the oil resources of foreign countries by American nationals, and to release the creative potentialities inherent in petroleum that the world will so sorely need with the coming of peace.

I. FACTORS THAT CREATE AN INTERNATIONAL OIL PROBLEM

Various characteristics of petroleum create in the international sphere highly specialized problems calling for foresight, experience, skill, and statesmanship in their solution.

1. Oil is a unique commodity

Its liquid nature, its chemical composition, its multiple uses, and its employment in great volume in the form of varied derivatives, give rise to a complex industrial structure appropriate to its special requirements.

2. Interest in oil is universal

All countries are consumers of petroleum, most countries are importers, many countries are exporters. Oil is used in every part of the world and is essential to all industrial activities. It is also the chief support of the newer forms of transportation, as exemplified in the motorcar, the truck, the Diesel boat, and the airplane.

3. The known oil resources of the world are limited and concentrated

Five great regions contain an overwhelming proportion of the world's oil. These are: the United States, the Soviet Union, the Middle East, the Far East, and the Caribbean area. The Middle East and the Caribbean area together probably contain more known oil than the rest of the world.

4. Oil exploration and discovery present extraordinary difficulties, requiring rare and specialized abilities

Undiscovered oil is a present asset to no one; if it is to serve an economic purpose, its discovery must be facilitated. Most of the oil so far discovered in the world has been found either by American enterprise or by techniques developed in the United States.

5. Oil is charged with a high economic potential

Modern industry and agriculture depend upon oil, and social advancement may be measured in terms of its *per capita* use. Oil development can be used as a catalytic agent for economic and social improvement in all countries.

6. Oil development can best be handled by private enterprise

(*a*) Private operations reduce the political dangers inherent in the international field.

(*b*) Private enterprise is the best source of the venture capital required for the undertaking.

(*c*) Private enterprise can best supply and develop the requisite managerial and engineering techniques.

(*d*) Oil operations involve exploration, production, transportation, refining, and distribution. Governments entering the oil business in one area will soon find themselves extended, directly and indirectly, into a far-flung complex of international complications transcending the original locus.

II. SPECIAL INTEREST OF THE UNITED STATES IN OIL

1. The concern of the United States with world affairs is inescapable

As a result of world developments, the United States has an inherent interest in the assurance of peace and economic stability in the postwar world.

2. Oil developments abroad are of critical importance in the foreign policy of the United States

The United States is concerned with the promotion of measures for facilitating and smoothing the necessary expansion of the world's petroleum industry, without which world peace and economic stability will be more difficult of attainment.

3. The economy of the United States probably faces partial dependence upon foreign oil resources

Long an oil exporter on balance, the United States may face a significant change in its status. Evidence points to the imminence of a shift from a condition in which this country has surplus oil for export to one in which the Nation will become a net importer of oil. This expected change will make the economy of the United States partly dependent upon foreign oil resources.

4. The national security of the United States is dependent upon adequate world oil developments

The security of United States military power is enhanced by having adequate and strategically located sources of oil supplies throughout the world in the hands of American nationals.

5. The Government of the United States can benefit all peoples by encouraging the energy of private enterprise in world oil developments

In addition to more direct imperatives, the United States faces an opportunity of going beyond the obvious necessity of protecting its own interests—an opportunity having to do with the positive objective of accelerating world reconstruction and raising the living standards of all countries.

6. The proficiency of the petroleum industry of the United States is an invaluable agent for promoting postwar reconstruction and industrial advancement throughout the world

The United States possesses, in the skill of its own nationals in oil developments, an asset of inestimable value not only to this country but to all other countries. This asset may be galvanized into a powerful force for world reconstruction if implemented by a national policy designed to this end.

III. A CONSTRUCTIVE APPROACH

The international oil problem is of such major dimensions that the Government of the United States should not only take action with respect to promoting the interests of its own nationals, but should also assume leadership in assuring the collaboration of other nations and the coordination of oil policies among nations.

1. The prosperity and security of all peoples require the efficient and orderly development of the world's oil resources

(*a*) Efficient and orderly development involves the application of advanced engineering practices, and especially the implementation of the concept of the optimum rate of production.[1]

(*b*) The universal application of the optimum-rate principle will result in the development of surplus producing capacity available in case of emergency. Its advantages have been fully demonstrated in the United States where it is proving invaluable during the war. It is a fortunate, although fortuitous, circumstance that the principle is equally advantageous in peace and war.

(*c*) Efficient and orderly development requires that the producing capacities of the various sources of supply be balanced with the needs for oil.

(*d*) Efficient and orderly development requires a clear definition of the respective roles of private enterprise and governments; dependability of contracts; noninterference with operating procedures once proper rules are set; and equal opportunity among competitors.

(*e*) Efficient and orderly development is possible only if contracts are respected by the parties to them, and if means are available for prompt and equitable solution of disputes arising under them.

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[1] The "optimum rate of production" is derived from the fact that "an oil well cannot be operated at full capacity without suffering a premature decline in its rate of output and an ultimate loss underground of a material proportion of the oil that otherwise would be recovered."

2. The national oil policy of the United States should aim at securing for American nationals access to the world's oil resources on equal terms with the nationals of all other countries

(*a*) National policies favoring state monopolies and discriminating between nationals of different countries are harmful not only to our nationals but to the nationals of all countries.

(*b*) Duties and taxes which tend to restrict consumption are harmful to all legitimate interests alike.

(*c*) While fair participation by foreign countries through royalties or taxes is desirable, it is to the interest of all countries to preserve incentives adequate to attract capital and insure continuity of expansion.

(*d*) In conducting business in foreign countries, many of which have economic concepts differing from ours, United States interests must conform to the laws and customs of the countries in which they operate if they are to do business on an equal footing there with foreign competitors. Until United States laws consistent with the welfare of our own country clearly authorize American interests to compete abroad on an equal basis with foreign industry, American business in other countries will be handicapped and American foreign trade consequently suffer.

(*e*) Even with equal access to oil resources assured to United States nationals, it will be illusory unless the Government undertakes to see that acquired rights are respected.

3. Oil in the hands of nationals of the United States is equally available for national security with oil owned or financially shared in by the Government of the United States

(*a*) Refineries constructed by private initiative for commercial purposes are likewise available during war for the needs of our country.

4. The Government of the United States should encourage private American enterprise to engage in the development of oil resources abroad

(*a*) Private American enterprise has already demonstrated its ability in international oil developments.

(*b*) To enhance national security many and widely distributed sources of products for military supply should be in the hands of United States nationals. Such sources have been developed by private industry and in many areas can only be so developed. Only through distributing facilities as well as sources of supply can these requirements be assured.

(*c*) Many countries not only resent but prohibit by law the holding of natural resources by an alien government either directly or indirectly, while permitting private capital to operate freely. Government enterprise may thus prove a handicap in time of war, as recent experience has demonstrated.

(*d*) Any direct participation by the Government of the United States in foreign oil operations, whether alone or in partnership with private corporations, will discourage private enterprise; and will not only increase the political complications but will retard the orderly development of the world's oil resources.

(*e*) The scope of foreign oil developments has been restricted by the large number of risks involved. Some of these risks are common to oil exploration and development in general, but in addition there are special risks arising from conflicting national policies endangering the continuity of operations. Within the United States the latter category of risks is absent and in consequence oil discovery has been immeasurably enhanced by the multiple efforts of great numbers of operating units. Similarly, these benefits can be gained for foreign operations by measures making for increased stability. The Government of the United States can serve the interests of a greater number of its own nationals and at the same time promote the interests of foreign countries by means of a foreign oil policy designed to reduce the political risks inherent in foreign oil operations.

(*f*) In the period of transition from war to peace, questions will arise as to the disposition of oil facilities abroad which the Government of the United States has acquired in the course of the war. In general such facilities should be disposed of to private enterprise.

(*g*) During the war the Allied Nations have built a great many facilities for handling oil products in the way of bulk storage, seaport installations and airports—particularly in the Eastern Hemisphere. When these facilities are no longer needed for war they should be disposed of in such a way as to insure of fair and equitable participation therein by American companies in the world's oil trade.

5. To avoid international friction and the growth of dangerous rivalries, the national policy of the United States and the national policies of other countries should be coordinated

(*a*) To the extent that the policies of different nations can be reconciled in terms which best serve the interest of world peace and economic advancement, the interests of all countries and all peoples will be promoted.

(*b*) Coordination of national policies will be essential in any efforts to check the accumulation of excessive stocks of oil by countries bent on aggression.

6. Such coordination requires the establishment and maintenance of machinery for continuous consultation

(*a*) The coordination of national policies may best be achieved by means of free and open discussion and voluntary agreements between governments.

(*b*) The establishment of special machinery for this purpose will greatly facilitate such coordination.

(*c*) The democratic process in this field, as in others, is superior to coercive methods.

IV. IMMEDIATE PROBLEMS OF PRESSING URGENCY

The needs of the United States in respect to the development of the world's oil resources combine both immediate and long-range problems. These problems are interrelated, for steps taken in the direction of resolving problems of present urgency may set the pattern for the continuing oil policy of this country. Measures initiated under the stresses of war conditions and during the period immediately following the end of hostilities, should be consistent with the longer-run interests of this country.

A sound foreign oil policy for the United States will envisage not only the adoption of well conceived principles but also their ultimate implementation through machinery of international understanding. Time will be required for the establishment of an agency of international coordination and consultation, and in the interim the Government of the United States will have to act on oil matters and make decisions of grave import.

1. Changed conditions require changed policies

The war has brought about radical changes in the status of the United States in respect to the oil resources of the world.

(*a*) The United States is faced with the prospect of shifting from the status of a net exporter to that of a net importer of oil, thus bringing into view the possibility of partial dependence upon foreign sources of supply.

(*b*) The advances in military techniques, especially in naval operations and aviation, have emphasized the need for far wider availability of oil facilities and supplies throughout the world than heretofore.

(*c*) In the face of enlarging requirements, there has been an accelerating growth of restrictive measures narrowing the opportunities for the development of the world's oil resources.

2. A foreign oil policy must be established at once if the interests of the United States are not to be sacrificed

(*a*) The combined domestic and foreign oil reserves held by nationals of the United States constitute a smaller proportion of the petroleum reserves of the world than the ratio of United States consumption of petroleum to total world consumption. Action is needed to enlarge the reserves under the stewardship of nationals of the United States, and to encourage the retention of existing contracts.

(*b*) Nationals of the United States should not be in a position of inferiority in acquiring and developing petroleum reserves within the territories or spheres of influence of other nations.

3. Private enterprise is the best medium for oil development

Of the three possible methods for developing the oil resources of the world—government operations, private enterprise, and mixed operations—private enterprise is the surest and soundest choice.

(*a*) Private enterprise has developed the requisite managerial skill and operating knowledge, and is already well established.

(*b*) Private enterprise can operate with a minimum of political complications, as most foreign countries readily admit foreign capital but few countries, if any, would look with favor upon operations by alien governments.

(*c*) Operations of United States oil companies are at present well-nigh worldwide in scope. This is a major factor in effective national defense and will be a major factor in facilitating peaceful commerce.

(*d*) The greatest immediate need on the part of private enterprise is the assurance of our Government that it will seek to reduce the political risks involved in the use of private capital abroad, and that it will take no steps to discourage the efforts of the nationals of the United States to maintain an effective and serviceable oil industry in foreign countries.

4. Bare essentials of an immediate foreign oil policy

The principles regarded as essential to the welfare of the United States in respect to oil are given in detail in the preceding pages of this document. The principles of more immediate urgency may be summarized as follows:

(*a*) The American petroleum industry should be encouraged to expand its plans for developing the world's oil resources. This encouragement requires assurance that nationals of the United States will receive the cooperation of our Government in securing a position of equal opportunity with the nationals of other countries and that the Government itself will not enter into competition with its own nationals.

(*b*) Existing handicaps in the oil operations of our nationals abroad should be examined in the light of their incidence upon our national welfare, and efforts should be made to remove such handicaps as originate in the laws and practices of the United States. American nationals operating abroad must be able to comply with the laws and customs of foreign countries without incurring the risk of violating American laws.

(*c*) The diplomatic support accorded to our nationals by the Government of the United States should be as effective as that accorded to nationals of other countries by their respective governments.

(*d*) The ultimate disposition of oil facilities and supplies developed or paid for abroad by the Government of the United States in the course of the war should be so designed as to promote the interests of our nationals in the postwar world.

(*e*) Our foreign oil policy should also include appropriate measures for the return after hostilities of American-owned properties, rights and interests in Axis-held territory; adequate compensation for assets destroyed and damaged; and assurance of an early commercial operation of returned properties.

5. Suggestion for a medium of government-industry consultation

(*a*) The American petroleum industry should be admitted more fully into the policy councils of the Government of the United States, and its ideas and experience should be availed of in a consultative capacity in all policies and measures affecting the future status of foreign oil operations.

(*b*) It is suggested that the Government of the United States should appoint a committee from the United States oil industry with suitable experience in foreign operations to maintain a continuing consultative connection with the oil-policy-making departments of our Government.

V. SPECIAL COOPERATION WITH GREAT BRITAIN

A large part of the known oil reserves involved in international trade are owned, controlled, or under concessions held by nationals of the United States and Great Britain. It is desirable, therefore, that the two Governments take the lead in achieving an agreement on basic principles consistent with what is outlined above, to guide their activities and the activities of their respective nationals during and after the war.

VI. A SUGGESTED FORM OF INTERNATIONAL ORGANIZATION

In the Interstate Oil Compact of 1935, the United States has created a valuable precedent for the lines to be followed in international coordination:

(*a*) Our own Interstate Oil Compact does not oust our States from control of their own policies. Similarly each country must be left freedom with reference to its own policy.

(*b*) Within the United States, the Interstate Oil Compact assures the coordination of policies of the various States, with Federal encouragement. Similarly, the oil policies of various countries need to be coordinated.

An international oil compact is suggested as the best means of assuring international cooperation in the future. A design for such a compact is attached hereto.

FOREIGN OPERATIONS COMMITTEE.

Note.—As Mr. H. F. Sinclair is out of the country and his alternate has been unable to communicate with him on the subject matter, he took no position on this outlined policy or report.

The design for an international oil compact referred to above is as follows:

Design for an International Oil Compact

1. An international oil compact should be negotiated with the following general objectives:

(*a*) Efficient and orderly development of the world's oil resources.

(*b*) Prudent conservation of the world's oil resources.

(*c*) Equitable distribution of oil to the peoples of all nations.

(*d*) Avoidance of national restrictions imposed as artificial aids to the production of synthetic or substitute products.

2. The international oil compact should be open to adherence by all countries, producing and consuming countries alike. It should become operative upon the adherence of five countries, provided that the five countries include the United States of America.

3. The international oil compact should provide for:

(*a*) A general conference of representatives of the adhering countries, meeting at least as often as biennially. Each representative may be accompanied by advisers, chosen with a view to the participation of different groups interested in the oil industry.

(*b*) A permanent commission composed of representatives of the adhering countries of chief importance as consumers of petroleum and of representatives of the chief industrial oil organizations in the leading oil producing countries, meeting at least semi-annually. Each representative may be accompanied by advisers.

(*c*) A technical institute, placed under the supervision and control of the permanent commission, to pursue the investigations necessary for the work of the general conference and of the permanent commission, and to serve as a center for gathering and disseminating information and for advancing technical methods and standards.

(*d*) Regional councils to be created by the permanent commission to promote the special coordination which may be needed in particular regions. Each council should consist of representatives of the local governments of the oil-producing countries of the region, and of representatives of the principal oil operators or groups of operators locally engaged, with a chairman nominated by the permanent commission.

4. The international oil compact should provide that the general conference and the permanent commission shall endeavor to encourage the coordination of national policies in pursuit of the general objectives of the compact, and that to this end either body may recommend measures needed for effective coordination.

The general conference should have power to promulgate draft international conventions on matters relating to the oil industry, such conventions to become operative for the countries which ratify them.

The permanent commission should serve as a continuing agency with the following functions: (*a*) to give effect to the policies adopted by the general conference, (*b*) to handle specific matters assigned to it by the general conference or by international conventions, and (*c*) to develop policies and prepare programs for submission to the general conference for the constructive application of the international oil compact.

5. The international oil compact should provide that the general conference shall establish a budget for each biennial period and determine the contributions to be made by the adhering countries and by the industrial organizations represented in the permanent commission, and that the expenses of the general conference, the permanent commission, and the technical institute shall be met from the budget fixed by the general conference.

6. The international oil compact should provide that the permanent commission shall create in connection with the technical institute an arbitral tribunal to which disputes may be referred by agreement of the parties, whether the parties are governments or oil companies. It should also provide that any dispute between adhering countries, with reference to the interpretation or application of the provisions of the compact or of any conventions concluded under it, may be referred, by application of any party to the dispute, to the permanent court of international justice for decision; that any such dispute between an oil company and an adhering country may, after the exhaustion of the local remedies provided by the law of the latter, be brought to the attention of the government of the country of which the company is a national; and that any such dispute be-

tween two or more oil companies may be referred by any party to the dispute to the technical institute for disposition according to a procedure to be laid down by the permanent commission.

A National Oil Policy for the United States

(A preliminary report of its National Oil Policy Committee to the Petroleum Industry War Council, approved March 1, 1944)

FOREWORD

The National Oil Policy Committee submits herewith a brief preliminary report outlining those principles believed essential to the determination of a national oil policy. Because of the importance of oil to both the security and welfare of this country, the committee is well aware of the responsibility imposed upon it. It has not completed the detailed studies which such a task requires, but has prepared this preliminary statement of principles at the special request of the Petroleum Administrator for War.

In its studies to date, the committee has been deeply impressed by the tremendous strides made by the petroleum industry in the production and manufacture of petroleum and its products. Probably no product illustrates more dramatically the increase in matériel requirements of World War II over World War I. After successfully meeting the demands of the First World War, the petroleum industry continued to improve the techniques and methods in every department of the business, based upon the enterprise and resourcefulness characteristic of America and stimulated by the greatest petroleum market in the world.

In 1918—the last year of World War I—the annual production of crude oil in the United States was 355,928,000 barrels compared with a present annual production of 1,503,427,000 barrels; there were 203,000 producing oil wells, against 405,000 wells today; an underground proven oil reserve estimated at 6,200,000,000 barrels, compared with 20,064,152,000 barrels now; a refining capacity of 1,186,000 barrels daily of crude oil against about 5,000,000 barrels daily at present, and a mere 50,000 miles of main oil pipe lines as against the present network of 140,000 miles. Gasoline yield per barrel of crude oil processed was 25 percent and reached 44 percent in the last prewar year. The quality of gasoline has been immeasurably improved and 100-octane gasoline for war has come into being in huge quantity. In 1918 and for several succeeding years after the First World War, talk of an oil shortage was rampant and all sorts of artificial schemes were advanced to substitute for the dynamic force of private initiative. The contrasting figures above are sufficient to show what a mistake it would have been after World War I to have adopted static, planned operations proposed at that time through fear of shortage and not to have trusted the dynamic, vigorous activities of the petroleum industry.

It was only as a result of the progress attained in those intermediate years that the industry was able to meet the many times multiplied demands presented by World War II.

Although the present report is subject to change when the committee's studies are completed, we believe that the changes, if any, will be largely those of expression and elaboration rather than of the principles here advanced.

I. BASIC PRINCIPLES

Three basic principles must guide the building of a national oil policy if the public interest is to be adequately served. These principles, which also are useful to screen out impractical or harmful proposals, follow:

1. Oil finding

Continued vigorous, intensive venturing of capital to keep up the search and to find oil is the most important basic necessity for the future oil production in the United States. Such effort can be carried on effectively only by private venture capital based upon a sound and profitable large-scale domestic oil industry.

Without such continuous oil finding effort on a large scale, all other possible policies are without serious significance in promoting our future progress in oil. Every proposed policy which may weaken this effort should be rejected.

Our preliminary views of a national policy have kept this basic principle to the fore as the most important one by which policies should be judged.

2. Oil production

The oil producing States of this country have during the past 15 years gradually developed the practice of producing oil in accordance with sound engineering principles intended to avoid waste in recovery and, by laws of the various States, this principle has been extended to avoid waste in storage above ground by limiting production within sound engineering practice and within available market demand. These principles of production are referred to as producing in accordance with the optimum rate and, we believe that optimum-rate production is the key to sound conservation practices and efficient oil-field operations.

3. Government attitude

(*a*) Government should encourage the petroleum industry to assume risks inherent in oil finding and production by minimizing such risks so far as possible.

(*b*) Government should not invade the province of industry either by participating with industry in operations or by itself entering into any phase of the business.

(*c*) As the public interest is protected by law from monopolistic practices and antisocial activities on the part of business, so the public interest should be safeguarded from the disruptive effects of improvised policies on the part of government that may have narrow or short-sighted objectives. Some of these safeguards can be provided by the principle of government and industry consulting on all actions having to do with policy.

(*d*) A dynamic factor that has made it possible for the industry to grow so consistently in the face of repeated predictions that we were running out of oil, is the development of technological methods in every branch of the industry. This technical progress is the result of competitive research within the industry and constitutes one of the great American achievements during the past quarter-century. Instrumental in promoting this invaluable asset has been the general policy of making new developments available for license on reasonable terms. It is vital to our future growth and development that such processes be encouraged rather than discouraged as they would be by proposals for governmental domination of research, emasculation of our patent system, or entry by the government into competitive research in fields where private research is adequately covering the ground.

II. SUGGESTED ELEMENTS OF POLICY

1. The search for oil is best promoted in an atmosphere of competition and confidence

(*a*) Any threat of governmental interference is harmful to this most individualistic of all economic activities, the oil industry.

(*b*) Conditions of frozen prices and limited materials and manpower, however, unavoidable in war, are harmful to oil search and should be reversed as soon as consistent with the general interest. Locked up productive capacity in the possession of the government, which can be turned loose on the domestic economy at any time without notice, would be one of the most crippling influences and of a character discouraging to oil finding efforts.

(*c*) National security and economic welfare can be served by encouraging private exploration efforts abroad as well as at home.

2. Production of crude oil on a conservation basis provides at minimum cost a natural reserve available for immediate expansion in an emergency

(*a*) When the Nation's production is on the basis of optimum rate as defined above, it will always be possible to produce at a greater rate for a short time without serious damage to the fields. This available excess rate of production plus the substantial percentage by which domestic consumption can be curtailed in wartime without serious harm to the domestic economy adds up to a large volume of emergency oil available in time of war.

(*b*) It is recommended that the optimum-rate principle already in wide use be extended to become universal practice in all producing states. This principle should also be extended in foreign operations.

3. Stock piling of crude oil and its products in sufficient volume to be of importance for national security would not in fact promote true national security

(*a*) The quantities of oil needed by a war economy are so large that the aboveground storage of sufficient oil to be significant would be incredibly costly. For example, the approximate volume of crude oil now being used by the United States

for war purposes is approaching 1,500,000 barrels daily. Four years emergency supply at this rate would be over 2,000,000,000 barrels. Storage above ground of over 2,000,000,000 barrels of crude oil and refined products would cost $8,000,-000,000 to $13,000,000,000 if held for 20 years.

(*b*) Huge above-ground storage which might be turned loose on the industry at any time, in addition to its enormous cost, would be a continuous threat to the oil economy and thereby discouraging to the first basic principle of continuing vigorous industry search for oil.

(*c*) The special storage of blending agents for the manufacture of aviation gasoline would be practicable on a moderate scale, but as the requirements of the engine of the future may undergo radical change, special attention should be accorded this probability before reaching a decision.

4. The importation of oil and pumping it into depleted or partially depleted oil or gas fields in the United States is impracticable

(*a*) In addition to the matter of excessive costs, these supplies would not be quickly recoverable for emergency use and a substantial portion of the oil would be lost in the sands.

5. Locking up proven reserves by the process of suppression of existing production, or by acquisition of proven oil fields by purchase or condemnation would be harmful to the hope of a continued, vigorous domestic industry

(*a*) The arbitrary cut-back of production below the optimum rate or reasonable market demand would violate democratic principles and, by constituting a threat to the market upon any subsequent change in policy, discourage oil finding by its effect in increasing the commercial risks.

(*b*) To bear any sensible relation to a daily production rate worth having as an emergency measure, the volume of production that would have to be acquired or shut-in would run into the billions of barrels of shut-in reserves. For example, if we assume that, on an average, maximum efficient rates would produce fields on a 20-year basis, we would be compelled to have proven oil reserves held out to the amount of 7,300 barrels for every one barrel of daily emergency production. Therefore, 1,500,000 barrels a day of available emergency production, by this method, would require taking out of the domestic economy billions of barrels of proven reserves. The paralyzing effect of any such action upon the vigor of oil finding is obvious from the mere statement of the situation.

(*c*) Arbitrary cut-back of production rates on any equitable basis by any rational methods would require an immense government force which would have to follow in detail the technique of every oil well in the country in order to say what each well could produce. Thereby all state authority would be over-stepped and all oil operations reduced to government-managed operations in every detail.

If proven oil fields, which means fields with a large number of wells completed thereon and ready to produce, are reserved in large volume, as stated, there would have to be continued expense in constantly testing and observing the wells and keeping the properties in shape for production without delay when emergency arises. This necessity, coupled with the great difficulties of keeping privately-owned production shut back throughout the country, would doubtless result in the creation of the most enormous body of government employees ever engaged on a single project.

(*d*) Arbitrary cut-back of production or keeping larger reserves out of production would be valueless except by taking measures for maintaining excess refining and transportation capacity, to make such suppressed reserves available for emergency use. For example, a production of 1,500,000 barrels a day in excess of refining capacity obviously would be useless in emergency until all of this extra refining capacity could be built. This again emphasizes the good sense of depending upon obtaining extra production in emergency by the elasticity available by optimum-rate production capacity, as explained above, plus restriction of domestic use in wartime, rather than upon such delusions as these grandiose ideas of enormous suppressions and locked up reserves.

(*e*) Such arbitrary cut-back methods would so disrupt the orderly productive processes as to amount to the nationalization of the entire industry.

6. The public lands should be kept open to private development

(*a*) The present policy of leasing the public domain for oil and gas exploration should be continued, with some liberalizing of the statutes, rules, and regulations, having due regard for the interest of the United States as a proprietor, but designed to encourage rather than to retard or hamper developments.

7. The present naval reserve acreage should not be increased

(*a*) The fallacy of naval reserves of oil is the same as that involved in the idea of locking up a large volume of crude oil production capacity. Experience in this war has shown that naval oil reserves in an undeveloped condition are of practically no value in emergency.

(*b*) Oil reserves for use in time of war, both naval and Army, can be most reliably obtained by a continued, vigorous oil finding effort, with production in the United States at the optimum rate as defined, plus the ability to cut back domestic consumption, and the having of large surplus reserves in countries which are the surest of being physically accessible in time of emergency.

8. Imports of oil should be handled in an orderly and flexible manner

(*a*) Our import policy, involving such questions as tariffs and quotas, should be kept flexible, so as to be readily adjusted from time to time to meet domestic needs and general economic requirements.

(*b*) The general principle of optimum-rate production for domestic oil fields will provide the basis for determining the economic need for imports, and to the extent that our requirements exceed such measures of domestic producibility, imports will be needed and will create economic balance.

(*c*) Imports in excess of economic needs and not required in the national interest, will create conditions harmful to search for new oil fields and the continuation of technologic progress in production and refining.

9. The oil industry has constantly advanced in the science of finding, producing, and refining oil

(*a*) This constant technological improvement should be encouraged. It has been the means whereby our oil reserves have been vastly increased and the production of the most necessary products from crude greatly improved.

(*b*) Technological advance has been one of the driving forces evident between World Wars I and II and responsible for the preparedness of the oil industry to meet the needs of modern mechanized warfare for oil in the quantity and kind demanded.

(*c*) The static view of our proven oil reserves as amounting to only so many years' supply is completely misleading and such calculations are capable of doing great damage to our future oil situation. The proven reserve is merely a given point in a moving inventory. The static estimate takes no account of all the dynamic factors that have been all important in meeting our requirements.

(*d*) The domestic proven oil reserve has declined less than one-tenth of 1 percent during the second year of our participation in the war, having actually increased the first year, while the oil reserves of our nationals abroad have steadily increased.

(*e*) The proven domestic crude oil reserves, officially stated at approximately 20,000,000,000 barrels, understates the true conditions. It does not include oil in unproved portions of proven fields, casinghead gasoline, oil that may become available by secondary recovery methods, oil yet to be discovered, and the oil equivalent of available natural gas. These additions will be very large, doubtless exceeding our discoveries to date. Nor does the estimate include the oil which may be recovered beyond the present estimates of proven oil in proven fields by reason of the constantly improving techniques in primary production methods. Such estimates are based on the amounts of oil recoverable at present prices by present recovery methods. Such estimates also take no account of the oil that may be extracted or synthetized from vast deposits of other carbon resources, such as coal and oil-shales.

(*f*) The technology of converting natural gas into gasoline is so close to a commercial status at present values that its utilization when needed can be left to the efforts of private enterprise.

(*g*) The techniques involved in the manufacture of oil products from oil-shale and coal, while entirely practical from an engineering viewpoint, represent costs substantially above present values and therefore are not commercial until oil prices rise substantially or these costs have been reduced. Because of this time gap, it might be appropriate for the Government to carry on technological developments to a reasonable degree, although such efforts would be more advantageously directed to development research than to large-scale installations, especially pending the acquisition of synthetic techniques developed in Germany during the war. The Government might also inaugurate extensive investigations in the classification of oil-shale deposits by grades, and in the problems and costs of

mining oil-shale. At the same time, considerable industry research is under way in this field and if oil rises in value there will be a natural intensification of these efforts.

(*h*) Discovery of oil in the United States has received renewed impetus from time to time from the development of new exploration techniques. The sequence has been surface geology, core-drilling, subsurface correlations, the refraction seismograph, the reflection seismograph, soil analysis, and many others. Discovery would be greatly facilitated by the development of a new exploration tool. While this field is being vigorously prosecuted by the industry, the technical advances in many fields have been so accelerated by the war that the Government could be genuinely helpful by directing funds to basic researches seeking to develop new principles which might be useful in exploration.

10. Easily accessible foreign reserves in friendly nations and owned and operated by United States nationals offer the greatest possible help for emergency needs

(*a*) Special thought should be given to increasing the already large reserves of this type by measures designed to augment the confidence, trust, and friendliness of nations in the Western Hemisphere.

(*b*) Any policies making for the impairment of the confidence of our neighbors through the direct or indirect participation of our Government in any phase of the oil business, either here or abroad, whether in production, transportation, refining, or marketing, should be avoided.

11. The national security and economic stability of the United States can be greatly enhanced by adequate world oil developments, under the leadership of United States nationals

(*a*) The principles and procedures submitted on November 4, 1943, to the Petroleum Administrator for War by Foreign Operations Committee advisory to the Administrator, in a document entitled "A Foreign Oil Policy for the United States," is recommended as a clear and acceptable policy.

(*b*) The Government is urged to give full consideration to this document, which has the endorsement of the National Oil Policy Committee.

(*c*) An international instrument of consultation and collaboration, without power of enforcement and in which there is joint government-industry representation, is deemed essential to further world oil developments on a basis of mutual respect.

III. CONCLUSIONS

1. The public interest in oil can best be served by a vigorous, competitive industry, guided by private initiative

(*a*) A proper degree of regulation in the interest of conservation and orderly production is recognized and has already been applied in this country. Similar practices may be encouraged in foreign developments, with their international complications only through some form of international voluntary cooperation.

(*b*) Improvised and hastily conceived measures so much in the public eye today can do immeasurable harm to our economy and wreck all efforts to form a proper oil policy.

2. Our oil future cannot be charted in advance; our best procedure is to maintain a vigorous, dynamic oil industry competent to meet the problems as they arise and able to create new approaches through dynamic action

(*a*) No field of endeavor more definitely requires initiative and multiple effort than oil. To stifle these factors would be to court disaster.

(*b*) At the close of World War I crude-oil production in the United States was approximately 1,000,000 barrels per day, and our proven crude-oil reserve was 6,000,000,000 barrels. As previously stated, a future oil shortage was indicated. Many plans for meeting this expectation were discussed and many proposals for Government intervention made. Experience has shown that all such measures would have been in error.

In the issue of National Petroleum News, May 22, 1918 (p. 6), there appeared a discussion of the coming oil shortage, and of possible need of "the Government creating vast storage of gasoline and lubricating oils against the oil industry not being able to find another Cushing field in the next year or two." No shortage occurred, and, due largely to American oil, every vital Allied need for petroleum was met.

After World War I, during which the oil industry alone with American industry generally was under wartime Government regulations and restrictions, there was some agitation to retain certain Government controls over the oil industry, but wisely this was not done and the Fuel Administration gave up all wartime control over the oil industry on May 15, 1919. However, in that year there was a campaign conducted for the "nationalization" of the fuel resources of the country, including oil (National Petroleum News, June 4, 1919, p. 19). Josephus Daniels, Secretary of the Navy, made a plea for "the nationalization of oil for future protection of American interests on the sea" at the annual dinner of the American Society of Naval Engineers, December 17, 1920 (New York Commercial, December 20, 1920). Fortunately nothing came of nationalization proposals. Similar attempts today would be equally erroneous. Since then the industry through its own efforts has been able to meet an ever-mounting demand as a result of striking advances in the operating techniques, and these advances have been accomplished by the free interplay of competitive forces in this dynamic industry.

(*c*) The oil industry's ability to provide 100-octane gasoline for the mounting thousands of planes now successfully fighting for domination in the skies over Germany and occupied Europe and overpowering the Japanese air strength in the South Pacific; to make toluene for the TNT in block-buster bombs; to produce butadiene and thus aid in the development of our synthetic rubber industry; to make the lubricants, fuels, and many other products indispensable to the vast war machine of the United States, lies fundamentally in the initiative and enterprise, resourcesfulness, and pioneering spirit demonstrated by the industry during the years between the close of the last war and the beginning of the present war.

As they have contributed to the security of the Nation in the present emergncy, so do the lessons learned in that period relative to conservation of oil, provide the surest answers to the establishment of a national oil policy in the public interest.

3. The domestic oil industry needs no further Federal administrative machinery

(*a*) For over a decade, the oil industry has been operating under one of the most effective and efficient industrial policies in our entire economy. This system needs freedom to evolve further, and anything to impair it or destroy it would prove unfortunate, if not disastrous.

(b) Important elements which implement the effective and effcient industrial oil policies referred to include:

State conservation laws
The Interstate Oil Compact
Connally "hot oil" law
Bureau of Mines certification of market demand to State authorities
Federal tax policy on depletion

All have received thorough public scrutiny and congressional approval and have proved themselves over a considerable period as to their soundness both in relation to the public interest and to the stability of the national economy. All should be continued.

(*c*) Comprehensive state conservation laws effectively administered are essential.

(*d*) The emergency controls necessary to the successful conduct of the war should expire with the emergency.

4. The operations of United States nationals in foreign fields need diplomatic support and machinery for international consultation

(*a*) Our nationals operating in oil abroad need to have the political risks reduced by intelligent and sympathetic diplomatic support by the Government. This does not mean Government participation which should be rigorously avoided in any phase of their operations.

As with the domestic situation, there is a remarkable parallel in the international oil situation at the end of World War I and today. Statements that the drain on United States oil production and reserves would mean that soon this country would have to get most of its petroleum supplies from foreign countries were given wide publicity. These were seized upon as reasons why the Government should develop an oil policy that would include Government participation in foreign oil operations.

In January 1921, a bill was introduced in Congress for an export oil embargo from the United States to any country discriminating against American oil

interests (N. Y. World, January 18, 1921). The question of national spheres of interest and national oil monopolies was fiercely debated in the press, with "closed door" advocates heard at home and abroad. For several years after World War I the need for encouragement of American industry in the development of foreign oil sources was the subject of our State Department representation on many fronts, and fortunately for the world the "open door" policy won out in most countries. This has enabled world production largely under free competitive enterprise to increase from 503,515,000 barrels in 1918 to 2,224,882,000 barrels in 1941, or 342 percent. United States increased its annual production from 355,928,000 barrels to 1,402,228,000 barrels, or 294 percent. The countries outside the United States increased their annual production from 147,587,000 barrels to 822,654,000 barrels, or 457 percent.

(*b*) The varying and conflicting oil policies of the various nations need to be brought into harmony with the objective of orderly and efficient world oil development. To this end, international machinery is necessary. The Government of the United States should take the lead in bringing about this necessary coordination.

5. The Government of the United States should develop, deliberately and only after mature study, an oil policy both domestic and foreign, based upon experience, knowledge, and insight

(*a*) Such a policy cannot be successfully formulated without consultation with the industry and should not be so attempted.

(*b*) All measures determinative of postwar policy should be held in abeyance until a final policy is determined.

(*c*) It is particularly urged that no definite action be taken by any arm of the Government committing the people of our nation to long-range future entanglements of a grave and indeterminate character in foreign countries, without first having these proposed commitments considered and approved by the Congress of the United States.

SUPPLEMENT

TO THE PRELIMINARY REPORT

ON

A NATIONAL OIL POLICY FOR THE UNITED STATES

ADOPTED MAY 16, 1945

1. The oil and gas business should remain in the hands of private industry, using its own capital. The public interest can best be served by a vigorous, competitive industry guided by private initiative.

2. The problems of conservation and waste of oil and gas are primarily industry problems; regulations for achieving conservation and preventing waste are matters of exclusive State jurisdiction.

3. While the production of oil and gas should be conducted by competitive effort of the industry, it is subject to limited regulation by the State to assure (*a*) the prevention of physical waste; (*b*) ratable takings from competitive leases and fields to preserve correlative rights and prevent excessive withdrawals; (*c*) adequate enforcement of proper gas-oil ratios; (*d*) rapid extension of the procedures of gas cycling and repressuring where warranted; and (*e*) the limitation of production of oil and gas to current market demand, and allowing gas produced with oil and reasonably accessible to find its proper place in the market for gas. Appropriate regulations to these ends are the proper functions of the State regulatory bodies and should be left to these agencies, which have already made notable advances in these directions. The invasion of this field by Federal agencies would not only be an unwarranted disregard of State rights but would result in a retardation of technological progress and dampen the competitive forces making for growth and progress.

4. While the high levels of required production for both oil and gas and the shortage of critical materials during the war years have prevented the full application of conservation measures, these conditions will be quickly corrected upon peace, and the accumulated technology will lead to accelerated conservation steps. The temporary circumstances of heavy withdrawals under directives should not be taken as indicative of a normal state, nor be regarded as wasteful in the ordinary sense.

5. Because of the unsynchronized growth of the oil and gas industries, accentuated by Federal regulation of the latter, part of the gas produced as a by-

product of oil wells has, for economic reasons, escaped conservation and become unavoidable waste. This fraction, however, has served a useful purpose in the expulsion of oil from the reservoir rock and in lifting. Through improved production techniques, including recycling and repressuring advancement in State conservation practices, expanding markets and prospective demands for conversion to liquid fuel and other products, the economic marketing barriers to gas now unavoidably wasted are being lifted.

6. The search for oil and gas fields is best promoted by competitive effort in an assured atmosphere of freedom of individual action and of incentive. No regulation or threat of regulation should be permitted in this area.

7. Oil and gas producers should hasten the development of cycling and repressuring projects wherever warranted; and the States should adapt their existing statutes, and where necessary enact new legislation, to promote these enterprises.

8. Through cooperation of the oil and gas industry with State regulatory agencies, all vent gas economically available for purchase, should be marketed. Sympathetic treatment on the part of these regulatory agencies is warranted by the end gained in extending the future reserves of gas.

9. The trend toward the production of liquid fuels and chemicals from oil and gas will be best promoted by private enterprise, and interference in this field should be avoided.

10. It is the function of the Federal Government under the Constitution to regulate interstate commerce. The tendency of the citizens in some States generally to oppose the export of natural gas to other States is without legal basis, would lead to results uneconomic and harmful to the national welfare, if successful, and should be discouraged. Retributive action among States blessed with an abundance of any of our natural resources should not be invited by the adoption by these States having greater natural resources of a policy in attempted hoarding of such resources for a future which may, through possible scientific achievement, find its use outmoded.

11. Jurisdiction over the production; processing in all its incidents, gathering compression, sale and delivery of natural gas at the point where its interstate movement commences must remain with the State regulatory agencies; and no jurisdiction over such matters should be conferred upon the Federal Power Commission or other Federal agencies.

12. The jurisdiction of Federal agencies such as the Federal Power Commission should be clearly and rigorously limited to the area of interstate transportation of gas and the sale of gas in interstate commerce for resale. Such agency should not attempt to reach forward and regulate the local sale or distribution of gas, or reach back and control either directly or indirectly the production, gathering, and compressing, or the price of gas prior to its delivery into the main line of an interstate carrier. In the determination of matters affecting the value of gas sold or delivered for interstate transportation, Federal regulation must be required to recognize all reasonable factors which relate to the value of such gas as a commodity at the point of delivery into an interstate transmission line.

The Natural Gas Act should be so amended as definitely to accomplish the objectives set out in paragraphs 11 and 12 hereof.

13. The end use of natural gas should not be regulated, because competition is the best arbiter. No group has the foresight to determine what is the best use of gas. Efforts to interfere with commercial decisions and to set up artificial standards and barriers will be subject to influence by special groups intent upon special advantage. Furthermore, if the State and Federal Governments enter upon this field of regulation, the ultimate logical end will be a managed economy. This whole field is best left to the determinations set up by relative prices in a free competitive economy.

14. While the Federal Government should not enter the field of regulating production of natural gas or oil, it can assist the industry and the states in the development, production, conservation, and utilization of oil and gas by appropriate cooperative legislation:

(*a*) The Interstate Oil Compact Commission, the advisory and coordinating agency to the State conservation bodies, should be recognized as the most effective medium for the dissemination of knowledge of advancement in the regulation, production, and conservation of oil and gas. The problems of natural gas production are receiving active attention in the open forum of the Compact and results of increasing importance may be expected. Congressional approval of interstate oil and gas compacts constitutes an aid.

(*b*) The option to expense or capitalize intangible drilling costs of gas and oil wells and the retention of the present percentage depletion allowance for tax purposes should be retained in order to encourage exploration and development.

(*c*) The development of cycling, repressuring, and other projects indicating the desirability of voluntary unitization is being hampered by the threat of double taxation. Obviously, such undertakings, greatly benefited by cooperative action within the single reservoir, should be clearly recognized as conservation techniques and should run no risk of being classified as separate business entities, subject to taxation as such. If our Federal tax laws were favorably clarified on this score, a tremendous impetus would be given to the entire field of oil and gas conservation.

(*d*) The scientific ascertainment by the Bureau of Mines of periodical market demand expectations of oil should be continued.

15. Such regulations as may be necessary by State or Federal Governments, within their respective constitutional spheres, should go no further than required in the public interest, and should facilitate the operation of the oil and gas business through private enterprise alone. Where regulation is allowed to exceed this role, however well meaning the purpose, it produces correlative disadvantages harmful to enterprise and the public interest alike.

It is believed that the public welfare, the rights of the consumers, and the interest of the oil and gas industry will be furthered by the adoption of the foregoing principles as a national policy, with the jurisdiction, functions, and the duties of the State and Federal Governments clearly defined.

The CHAIRMAN. We will now hear the testimony of Mr. Callis.

STATEMENT OF EUGENE M. CALLIS, PRESIDENT, PETROL CORP., PHILADELPHIA, PA.

Mr. CALLIS. Mr. Chairman and members of the committee, my name is Eugene M. Callis. I am president of Petrol Corp., an independent oil marketing company having its main office at Philadelphia, Pa. I have been the principal owner and president of Petrol since it was established in 1934.

The CHAIRMAN. In what business were you engaged prior to that?

Mr. CALLIS. Petroleum. That is all I have done. I have been in the petroleum business since 1919, always in marketing.

This committee has been authorized to make a study of the nature and problems of the petroleum industry so that it can make appropriate recommendations for the formulation of a long-range national petroleum policy. The formulation of any such policy will, of course, have as one of its main considerations the competitive relationship of small independent nonintegrated oil companies to large major integrated oil companies. I believe that, in studying this relationship, the most important point which presents itself for consideration is the fact that this relationship as it now stands will, if not changed, preclude the survival of these small nonintegrated independent companies. Monopoly is a familiar term.

Over a long period of time, as is well known, many small independent nonintegrated oil companies in various branches of the industry have been liquidated. Some, too, have been absorbed by large major companies. This trend was evidenced before World War II. It was accelerated during the war and has continued since VJ-day. Unless drastic measures are taken to curb it, the problems which will confront independent nonintegrated companies during the reconversion economy and thereafter will be so myriad as completely to engulf such companies. Petrol Corp. is one of the few remaining genuinely independent marketing companies offering substantial and aggressive

competition to the large major oil companies on the Atlantic coast. As president of Petrol Corp., I do not view such a monopolistic trend without some foreboding. On the other hand, I do not view the trend with resignation, as being the work of some inevitable force before which small business must bow its head and bow out. I believe, rather, if it is clearly realized by the members of this committee, that the major oil companies are directing and nourishing this trend, measures can and will be taken to remedy the situation.

Mr. Dewey Anderson, when executive secretary of the Temporary National Economic Committee, in his progress report of January 15, 1941, deprived monopoly of any possible aura of fatality when he said:

> Monopoly cannot be attributed to natural factors alone. It is the product of formal agreements and secret understandings; of combinations, intercorporate stockholders, and interlocking directorates; of the ruthless employment of superior financial resources and bargaining power; of unequal representation before legislatures, courts, and administrative agencies; of the exclusion of competitors from markets, materials, and sources of investment funds; of restrictive contracts and discriminatory prices; of coercion, intimidation and violence.

My primary purpose in coming here is to show your committee how the threat to the independent oil marketing companies' survival has become a reality through the practice of discrimination directed against the interests of small business in the petroleum industry. Unless such practice is curtailed I believe, after the reconversion period, there will be no genuinely independent companies in a position to offer real and effective competition to the major oil companies.

Specifically, discrimination was practiced against independent nonintegrated oil companies through the methods used in carrying out the Government petroleum program designed by administrative agencies and their committees to meet wartime emergencies in the industry. The administrative agencies which regulated and interpreted the program were staffed in the main by representatives of major oil companies, who were either on temporary leave from their employers and on the Government pay roll, or acting in advisory capacities.

In an article appearing in the New York Times of September 13, 1945, a reporter stated that Mr. Charles L. Harding, director of district No. 1, Petroleum Administration for War, had emphasized that the Petroleum Administration for War measures were, quoting Mr. Harding, "not so much control imposed from above as the working out of a cooperative venture with the oil companies themselves." The reporter further stated that Mr. Harding said the petroleum industry committees made up of trade and industry keymen had discussed all problems with the Petroleum Administration for War and had been responsible for most of the recommendations that then were written into directive form.

Many industry committees and subcommittees were set up to represent the Petroleum Administrator for War. They were not merely advisory committees but were given and exercised broad administrative powers. A heavy majority of their members were with major integrated oil companies. For example, in the Atlantic coast area, of the 6 members of the general committee, 5 were with major oil companies and 1 is a producer of crude oil. Independent marketing companies had no representation whatsoever on this committee. The major oil

companies had 9 of the 14 members of the supply and transportation subcommittee. On the subcommittee on pipe lines, all 6 members were representatives of major oil companies; of the subcommittee on barges 7 of the 11 members were from major oil companies; and all of the members of the subcommittee on tankers were with major oil companies. The major oil companies supplied 6 of the 8 members of the subcommittee on tank cars; and 8 of the 11 members of the extra transportation expense managing subcommittee were affiliated with major companies. Eight of the 12 members of the subcommittee on transport trucking were from major oil companies; and the major companies had 10 out of 12 members on the subcommittee on supply. If these committees and subcommittees had acted only in an advisory capacity, minority reports filed on behalf of independent marketing companies might have been of some avail, but such committees and subcommittees not only possessed but extensively used administrative powers.

Mr. Fraser. Mr. Callis, would you define what you mean by a major oil company? Is it just one of the large companies? Is that what you mean?

Mr. Callis. A major oil company is one which has producing, refining, transportation, and marketing facilities.

Mr. Fraser. But there are some smaller companies that are integrated in those respects?

Mr. Callis. Yes; they have all four; they have producing, refining, transportation, and marketing facilities.

Mr. Fraser. But you would not call them majors, would you—or do you?

Mr. Callis. No; they are small integrated companies.

Mr. Fraser. Then, what is a major company? It is not just an integrated company?

Mr. Callis. I refer to the large major oil companies primarily such as the 13 major oil companies on the east coast in the territory in which I operate, who have producing, refining, transporting, and marketing facilities. Does that answer your question, Mr. Fraser?

Mr. Fraser. I think so. It is a little clearer to me.

Mr. Callis. We understand that over 200 major oil company employees were placed in the various Government agencies involved in regulating the petroleum industry, a large number in strategic positions at the policy-making level.

The members of the Petroleum Industry War Council were appointed by former Petroleum Administrator Ickes to advise and consult with him on industry matters of high policy. Mr. William R. Boyd, Jr., president of the American Petroleum Institute, was elected chairman of the Petroleum Industry War Council. It was against this Institute and 368 other major oil companies and affiliates that the Attorney General on September 30, 1940, had filed a complaint alleging violations of the antitrust laws.

Mr. Fraser. There you say 368 of the major oil companies and affiliates?

Mr. Callis. And affiliates, that is what the complaint says.

This cause was held in abeyance during the war period but recently was revived by the Justice Department. The presidents of all major oil companies operating on the Atlantic coast were appointed as

members of this Council, but, although this area was the one most critically short of products, not one independent marketer operating on the Atlantic coast was appointed to the Council.

You will have an opportunity to determine for yourself whether the membership of the Council and committees acted impartially as you hear the rest of this story. I know this picture is not new to Congress but it is time that it established a fixed national policy that will, in the future, safeguard genuine free competition in the oil industry in the public interest.

No clearer example of the injurious effects of unequal representation on committees functioning for administrative agencies of the Federal Government can be found than in the particular case of Petrol Corp., and, I think that the telling of Petrol's story will be helpful to this committee in its work of formulating a just and effective national petroleum policy. The elimination of problems such as these which have confronted Petrol Corp. will stabilize the position of the independent company in our economy to the great benefit of the industry and the consuming public alike.

Mr. Fraser. Of course, we do not have the PAW and the Petroleum Industry War Council any more. Are you thinking, perhaps, of what our policy might be if similar agencies were set up in the future in some emergency?

Mr. Callis. The national policy may require that, yes.

Petrol Corp. is a nonintegrated marketing company and sells principally gasoline and fuel oil, under its trade name "Petrol." Its operations are carried on mainly in eastern Pennsylvania, southern New Jersey, Delaware, Maryland and the District of Columbia. Before the war, Petrol acquired much of its products on the Gulf coast and shipped them to its Atlantic coast terminals by chartered ocean tankers. Being only a marketing company, Petrol owns no oil wells, refineries, pipe lines, ocean tankers, or railroad cars. However, it does control, by ownership or lease, its ocean terminals or storage plants and its fleet of trucks for delivering petroleum products at wholesale and retail. The annual volume of Petrol Corp. is approximately 8,000,000 barrels of petroleum products; 60,000 consumers depend upon Petrol for supply.

The period of Petrol's story in which I believe the committee will be most interested began in September 1941, when the Petroleum Coordinator and the Office of Price Administration requested the petroleum industry to see that petroleum products sufficient to prevent a crippling shortage were brought to the Atlantic coast area regardless of the costs involved. To induce companies to bring in petroleum products, these agencies promised to provide a sufficient increase in ceiling prices, or some other method, to insure all companies against the vast losses that would otherwise result.

Petrol, along with others in the industry, complied with the request for several months without receiving the promised relief. Finally, on January 22, 1942, the Office of Price Administration authorized small price increases for some refined petroleum products, and a plan was proposed whereby the additional revenue derived from these increases was to be deposited in a common pool from which participants were to be reimbursed for excess costs of bringing petroleum products to the Atlantic coast over and above their normal costs by ocean tanker transportation.

Petrol agreed to participate in this plan. As you will see, we had little alternative.

Prior to the war we had sufficient ocean tankers under long-term charter to move our products to the Atlantic coast. During the last half of 1941 ocean tankers were allocated by the Government and we were forced to make an urgent appeal to the Office of Petroleum Coordinator to allot us some of the ocean tanker capacity still available. Finally on January 31, 1942, the Petroleum Coordinator's Office did allot us two tankers, but the wire which we received from Director Gilbert stated that the tankers were to be allotted—and I quote Mr. Gilbert:

> On the condition that you will participate in an agreement by the industry to proportionately supplement your petroleum requirements into district 1 by use of tank cars and any other higher-cost transportation facilities, and that you will also share proportionately in an industry plan of allocating added costs of such transportation.

We understood this condition to mean that if we did not agree to participate in the plan we would receive no ocean tanker assignments to move products from the Gulf coast. We understood it to mean that we had the choice of either becoming a member of this "voluntary" plan or of going out of business. We chose to join the plan.

Thus, Petrol went on about the business of getting oil to the Atlantic coast, regardless of the heavy cost, under the assumption that, as promised, it would be compensated for the difference between its normal cost of ocean tanker transportation and the higher cost of transportation by railroad tank car or other substitute method.

On March 12, 1942, the plan to reimburse the petroleum industry for the extra cost involved in bringing oil to the Atlantic coast was approved and issued by the Deputy Petroleum Coordinator and called the "Plan for the Equitable Sharing of Revenue and Extra Transportation Expense." As the title indicates, the purpose of the plan was to provide for the "equitable" sharing of these costs among participants. This plan was developed and written up for the industry by a group of major oil company representatives and submitted by them to the Petroleum Administrator's Office. These men and their companies had a complete understanding of how the provisions of the plan would operate whereas Petrol, the only independent company originally participating in the plan, had no part in the preliminary discussions and had no advance information as to how the provisions of the plan would operate.

On August 1, 1942, this plan, which I shall refer to as the "first plan," was supplanted by a Federal subsidy plan commonly called the "petroleum compensatory adjustment plan," which I shall refer to as the "second plan." This plan also was developed and organized with the aid of officials and employees of major oil companies. This was a substantial advantage since these major oil company representatives could see that the provisions of the plan were drafted so as to take care of their company's problems. This second plan not only reimbursed participants for excess transportation costs, but also for that part of purchase prices of petroleum products above normal Gulf coast area prices.

The expressed intent and purpose of the two plans would appear to satisfy the needs of all participants. However, when it came to the matter of fixing the normal costs for ocean tanker shipments from the Gulf coast area to the Atlantic coast area, which costs were to be deducted from actual transportation expenses in order to determine the excess thereof above normal to be reimbursed, rates fixed by the War Shipping Administration were used as normal costs in both plans. These so-called normal rates were far in excess of normal. War Shipping Administration admits this to be true. Their use in the plans had the ultimate effect of causing Petrol Corporation to absorb amounts greatly in excess of its true normal transportation costs. I believe an accurate method of determining the normal cost of Gulf coast to Atlantic coast ocean tanker shipments can be found in the 1929–40 average ocean tanker charter rates for such shipments, as published by Dietze & Co., of New York City, leading tanker charter brokers. Chart No. 1, which is on display in this room, shows how such Dietze & Co. average rates compare with the rates fixed by the War Shipping Administration:

	Cents per barrel
For gasoline and kerosene:	
Normal rate	25¾
Rate used in plans	40
For distillate:	
Normal rate	25¾
Rates used in plans	42 and 46
For residual fuel oil:	
Normal rate	24⅞
Rates used in plans	46 and 48

Mr. Fraser. The chart which you refer to in your testimony and and on display is reproduced here in your statement as a table?

Mr. Callis. That is right, Mr. Fraser.

You can see, therefore, the rates established by the War Shipping Administration were unduly high and not true normal rates. These rates were established by the War Shipping Administration not for the specific purpose of representing normal rates for use under either plan, but for the conduct of its own operations. Their use arbitrarily deprived Petrol Corp. of reimbursement of a substantial portion of its extra and abnormal transportation costs. The distribution of petroleum products is handled on such a narrow profit margin that 15 to 20 cents per barrel is frequently the difference between profit and loss. From September 4, 1941, to September 30, 1945, Petrol Corp. should have been paid additional reimbursement of excess transportation costs in the amount of $2,029,121.33. It is significant that on October 15, 1945, a few days after the subsidy plan had been terminated, War Shipping Administration reduced its tanker rates for Gulf to Atlantic coast shipments from 40 to 32.9 cents on gasoline, from 40 to 37 cents on kerosene, from 42 to 37 cents on distillate, and from 48 to 43.9 cents on residual oils. We understand further cuts are imminent.

Mr. T. E. Swigart, president of Shell Pipe Line Corp., has estimated the postwar cost of shipping gasoline from the Gulf to New York in type T2 tankers will be 16.1 cents per barrel. War Shipping Administration's estimate is 15.5 cents per barrel. In the estimate of costs, the purchase price was assumed to be $1,500,000; interest on investment was taken at 3½ percent; depreciation at 5 percent; 8 percent

was allowed for return on investment and 50 percent for State and Federal income taxes.

The CHAIRMAN. Were these tanker rates paid by all shippers?

Mr. CALLIS. Yes, sir. I am getting to that. [Resuming:]

There would have been some compensation in suffering such a loss in the name of the war effort if it weren't for the discrepant fact that large major oil companies which own tankers did not suffer from these arbitrary rates. On the contrary, they not only continued to realize their normal tanker transportation profits, but amounts grossly in excess thereof, even up to the full differential between their normal prewar costs and the War Shipping Administration maximum charter ceiling rates used in both plans. It can be seen, therefore, that these companies recouped their excess substitute transportation costs above their actual normal tanker transportation costs, partly from the War Shipping Administration and partly under the first and second plans. These companies being integrated also had opportunities for other subsidies and profits not available to Petrol. The enormous profits they realized are shown on the table which I now present. Note, too, that it shows Petrol is the only participant that was forced to operate under these plans at a loss for the duration.

(The table referred to is as follows:)

Net profits of 11 major oil companies

1938	$191,923,651	1942	$253,168,168
1939	219,853,067	1943	336,278,836
1940	263,186,315	1944	441,859,324
1941	363,549,281		

Net profits of Petrol Corp.

1940	$335,128	1943	−$115,880
1941	168,813	1944	−96,719
1942	127,401	1945	−130,000

Mr. CALLIS. I have taken the 13 participants in the plan. They are known as the east coast major oil companies. There were 11 major oil companies, Petrol, and one building-manufacturing company that participated. You will see that the earnings of the major companies from 1938 advanced from $191,000,000 to $441,000,000, despite the tax increase during the period.

The CHAIRMAN. What was the source of the figures?

Mr. CALLIS. Poor's Industrial Service and Moody's Investor's Service.

Mr. ENGLAND. And these figures are after Federal income taxes?

Mr. CALLIS. Yes, sir. I have a break-down of the individual 11 companies whose totals appear in the table.

The CHAIRMAN. Are they the same companies in each year?

Mr. CALLIS. Yes, as shown in Poor's and Moody's services.

Now, the comparison I am making again is that we were in this same plan and followed in the second plan. We brought the oil by cars the same as they did. We purchased under the various directives the same as those companies did. We sold the products in the same areas at the same ceiling prices as they did. I note for the committee's benefit their trend versus the trend of my company.

The CHAIRMAN. The only distinction that you have mentioned so far is that the major companies had their own tanker service, and Petrol did not.

Mr. Callis. Plus the other advantages that I referred to, as to other subsidies and profits not available to Petrol in the producing, refining, and transportation ends of the business.

The Chairman. Is that by reason of the segregation?

Mr. Callis. Yes, sir. They are simply facts. We are not by inference or innuendo indicating or intimating that we are entitled to as much profit as they are for having four profitable departments.

We are simply stating that under a plan promulgated by Government with the assistance of industry we were forced to operate under Government directives where the cost of the products, the cost of the transportation of the product and the sale of product were regulated. Their operations in the same areas were profitable, whereas ours were unprofitable.

The Chairman. But any other company which did not have its own tanker fleet paid the same transportation rates that you paid; is that correct?

Mr. Callis. Yes, sir.

The Chairman. And it would probably suffer the same loss of income?

Mr. Callis. Unfortunately, I know of no such company. There may have been major companies who did not make as much money on their transportation as others. They may not have had the same percentage of oil, toluene, or aviation gasoline to sell in the war effort, but those companies did have the same increased trend of earnings.

The Chairman. What I was getting at was whether there were other independent companies which had the same experience that you had.

Mr. Callis. I know of no such companies.

The Chairman. Then, why was yours a particular or peculiar case?

Mr. Callis. The records indicate that I was the only independent nonintegrated company who participated in these two plans, who brought in a barrel by substitute methods for each barrel that I sold before the war.

The Chairman. Then, the other independent companies that were operating in your field did not participate in the plan?

Mr. Callis. To the same extent that I did, no, sir.

The Chairman. To what extent?

Mr. Callis. Minor. Those records are available, and I would be glad to submit the activity of the other independents which later joined the plan. I was the only independent that was in the plan from the start.

The Chairman. Your complaint then is that the reimbursement which was adopted is not broad enough to cover your case; is that your complaint?

Mr. Callis. It was intended to. It was the intention that we were to be reimbursed. But as the plans were administered by both industry committees and Government agencies, others were reimbursed in full for doing the same thing for which we were only partially reimbursed. Our 20-cent tankers were taken away from us and we were forced to 40 cents as normal.

I have another phase of this situation which contributes to the profit trend which I would like to cover.

Mr. Fraser. Mr. Callis, will you ask your attorney to send the committee a copy of this table so we can reproduce it?

Mr. Callis. I will be very glad to. [Printed, *supra*, p. 449.]

Mr. Callis (resuming): As I have said, the compensatory adjustments provided in the second plan were supposed not only to reimburse participants for excess transportation costs but also for extra and abnormal costs above normal purchase prices in the Gulf coast area. I would like to explain how, in the latter instance, Petrol, because of an arbitrary fixing of product values, was again discriminated against.

The second plan arbitrarily fixed product values to be used in computing claims at prevailing ceiling prices for refined products in the Gulf coast area. Petrol Corp., which always had cargo contract prices lower than these ceilings, was penalized by the difference between its cargo contract purchase prices and the applicable ceiling prices. Although it could have bought, under contract, petroleum products below ceiling prices, it had to use the ceiling prices to figure its claims for compensation under this plan. However, effect was given by Defense Supplies Corporation to contract prices below ceiling prices for crude oil purchased by it in Texas fields, since it paid full ceiling prices for crude oil purchased and transported through pipe lines owned by War Emergency Pipelines, Inc., a Government-controlled corporation, although the companies from whom it bought may have acquired the crude oil at discounts off ceiling prices.

That is to say, major integrated oil companies buy crude oil and refine it. Independent nonintegrated marketers buy gasoline and other refined products. Purchase price advantages were allowed on crude oil but not on gasoline or other refined products. Such practice obviously resulted in preferential treatment of large major integrated oil companies to the detriment of independent marketers such as Petrol. In this respect, the effect given the second plan was discriminatory and prejudicial. Obviously independent marketers should not have been denied compensation because they operated in only one branch of the industry. I would like to add here, the loss to Petrol Corp. amounted to $1,104,891.93, from August 1, 1942, when the second plan went into effect, to October 1, 1945, for the loss of those margins.

Coming back to the first plan for a moment, I would like to call your attention to the administration of the pool comprised of the additional revenue derived from authorized price increases. This pool totaled more than $310,000,000, which was disbursed under approvals made by a subcommittee appointed by the Petroleum Administrator. This subcommittee was known as the extra transportation expense managing subcommittee. As previously stated, 8 of its 11 members were officials and representatives of large major oil companies. A review of the subcommittee minutes will indicate payment of certain costs were denied independent nonintegrated companies while full payment of similar but not identical costs was allowed large major oil companies.

Since the inequalities of the Government program to aid the petroleum industry in its furtherance of the war effort constantly jeopardized Petrol's very ability to continue operations, from the inception of the plans it appealed to the Petroleum Administrator for relief. It was first advised that control of all margins and prices was vested by law exclusively in the Office of Price Administration. Taking its case to the OPA, officials of that agency instructed Petrol to continue operations to determine what losses would be sustained, and

upon ascertaining them to petition for relief, which would be granted. On July 28, 1943, Petrol filed with the OPA, the Petroleum Administrator, and the Defense Supplies Corporation a petition outlining losses it had sustained and requesting specific relief. To date no relief has been forthcoming and the plans have been terminated.

Mr. FRASER. Do you mean to say that you had a firm commitment by OPA to grant the relief if you went ahead and sustained losses?

Mr. CALLIS. We think so. We got the commitment from Mr. Leon Henderson then Price Administrator, Mr. Harry Boothe, counsel, and Mr. George Roffing, price executive, petroleum section, all of OPA.

Mr. FRASER. Was that a verbal understanding?

Mr. CALLIS. Confirmed by them or us that we were to proceed accordingly.

Mr. FRASER. Was that a verbal understanding?

Mr. CALLIS. And confirmed, I think.

Mr. FRASER. In writing?

Mr. CALLIS. Yes.

The CHAIRMAN. I am not altogether clear why you were sent to OPA. I understood you to say that certain costs were allowed by the Petroleum Administration in the case of integrated companies, but similar costs were denied to the independent company. If that is true, it means that the action which caused your loss was an action of the Petroleum Administration for War and not OPA.

Mr. CALLIS. We have always thought so, Mr. Chairman. We have contended that all along it was PAW's job, since they told us to go into the plan, and since they promulgated it. It was their job to see that we were paid upon the same yardstick as other participants were paid.

The CHAIRMAN. But your statement was that the costs which were allowed in the case of the major companies and denied in your case were not the same costs but similar costs; am I right?

Mr. CALLIS. In a measure; yes.

The CHAIRMAN. Is that the fact?

Mr. CALLIS. They were both identical costs and similar costs. In other words, we may not have imported oil for as far a distance as my competitors did in the plan. They had benefits of exchanges which we did not.

The CHAIRMAN. Here is your sentence:

> A review of the subcommittee minutes will indicate payment of certain costs were denied independent nonintegrated companies, while full payment of similar but not identical costs were allowed large major oil companies.

Now, that seems to me the gist of the case.

Mr. CALLIS. Those items of expenses were, even if they were ruled out because they were not identical, still covered by the plan, and in dollars they amounted to a very small fraction of our total claims.

The CHAIRMAN. Can you give me an example of what costs are meant?

Mr. CALLIS. Yes.

The CHAIRMAN. What cost was denied you that was allowed a major?

Mr. CALLIS. We were told to purchase product wherever we could get it in district 1 and move it to the point of shortage. For instance, we were desperately short of oil here in Washington. We have the largest terminal here. Our plant was relatively empty when it should

have been full. We came to Washington and discussed the matter with the Petroleum Coordinator and his staff, and they told me that this plan was being promulgated, and for me to buy oil and fulfill my obligations wherever I could get it.

I went to New York. There was a surplus of oil there. I transported it to Washington, around the cape, at a cost, say, of one-half cent a gallon, millions of gallons. When the plan was promulgated it said that that expense would be compensated for, but I had to subtract from my extra expense the cost of bringing oil from Texas to New York. Obviously, I did not pay as much transportation from New York to Washington as it would have cost to move that same quantity of oil by tanker from Houston, Tex., to Washington or Philadelphia or Baltimore. Consequently, because the language of the plan, after I had spent the money to bring the products in to fill the shortage, was such that the plan was promulgated after the job had been done, and there were several words which said, if I interpreted them, that the committee would pay, as we contended it should have been paid, and it was denied.

On the other hand, companies which did the same thing, who had exchange agreements, New York versus Baltimore, or Baltimore versus Toledo, or St. Louis versus Washington, those companies were allowed compensation for oil which moved from Houston to St. Louis. Then they traded it with a friend or an associate and got it to Washington. They were compensated for 10 times the units in dollars because of the extra freight. But we were denied our actual freight costs from Washington to New York.

Similarly, we brought oil from as far west as New Mexico, and a technical decision of the committee, after many meetings, where there were tie votes and the chairman refused to vote, went against me and I was not reimbursed. None of this money was denied Petrol Corp. on a one vote. It was after constant meetings and constant wrangling on the part of Petrol versus the 11 men on the committee.

But the language that you refer to specifically can be supported, and in such a way that on a number of votes, had the chairman voted, we would have been paid.

The CHAIRMAN. You mean if he had voted to pay you?

Mr. ENGLAND. If he had voted for you.

Mr. CALLIS. Yes; after the votes went the other way, the subject, of course, was passed. Then, under the plan we appealed, and since the same men we appealed to were in effect on the committee, that was denied. When it got to Washington, it was denied. And when we filed our complaint, we were referred to the OPA. The fellows that wrote the plan referred us to the OPA. Then, when the DPC got in, the OPA referred us to them.

The CHAIRMAN. You were referred to OPA, I take it, on the ground that your compensation was to be obtained through the authority of OPA to pay a subsidy. Is that right?

Mr. CALLIS. Yes, sir.

The CHAIRMAN. It was not through any interpretation of OPA price ceilings, but the OPA power to pay subsidies? Am I right?

Mr. CALLIS. That is right. But, of course, we felt that the PAW just shifted the burden from their own shoulders to those of OPA. They were both responsible for the promulgation of the plan.

We had a fund in the Chase National Bank, and the OPA and the PAW agreed upon price increases that were necessary to pay the industry's extra transportation costs. This plan, the first plan, was a very complicated program, and the net of it was that the public paid all of the bill until price increases on gasoline were elevated as much as 3 cents. Then the subsidy took over, and the prices were reduced. Then we closed the pool account and transferred it to the account of the RFC.

The CHAIRMAN. Was the reference to OPA written or oral?

Mr. CALLIS. You mean the reference——

The CHAIRMAN. To the OPA by the PAW?

Mr. CALLIS. On paper; yes.

The CHAIRMAN. It was written, was it?

Mr. CALLIS. Yes, and confirmed.

The CHAIRMAN. Did it state the reason why?

Mr. CALLIS. Yes, PAW stated in effect, the plan speaks for itself, and it is OPA's job to prevent casualties. Of course, there will be a few casualties. If they think you need any relief OPA can tell us to amend the plan, or they can grant relief through the authority which they have, if they choose to.

Senator MOORE. By the subsidy program?

Mr. CALLIS. A subsidy or price increase; yes.

The OPA letter proposed, as I outlined here, a method of helping me which was anomalous. It was without effect.

After further conferences with the agencies involved, on March 7, 1945, auditors of the OPA came from Washington to Philadelphia to analyze the financial condition of Petrol. They advised that the relief which would be offered, if found justified, would be to authorize an increase in Petrol's ceiling prices. This would have been an anomalous concession, since Petrol could not charge its customers more than its competitors and hope to stay in business.

As you can see, we tried every means within the scope of the agencies involved to obtain relief, which we not only badly need, but which, in accordance with the purposes of the recommendations issued by these agencies, we fully deserve.

Mr. FRASER. Did you go to the War Shipping Administration, too?

Mr. CALLIS. Yes, sir.

Mr. FRASER. Do you cover that?

Mr. CALLIS. Yes, sir.

Mr. FRASER. Very well.

Mr. CALLIS. The negative and ineffectual attitude of these agencies convinced us that we would have to seek a just solution to our problems in another direction. I should like to say here that if any of the members of this committee have thus far got the impression that Petrol Corp. has a persecution complex, it is only fair to state that we got it at the expense of over 3½ million dollars. On June 1, 1945, I wrote a letter to Mr. George S. Stoner, executive vice president of Defense Supplies Corporation, which, in part, declared that:

Unless the Defense Supplies Corporation is disposed to make immediate payment of the claims, it is suggested that the claims be submitted to arbitration under either the rules of the Federal Arbitration Act or the commercial arbitration rules of the American Arbitration Association. This procedure would involve a signed agreement on the part of Defense Supplies Corporation and Petrol Corp. to be bound by a decision of impartial arbitrators in their determination of the answers to the following questions:

(1) Was Petrol Corp. impartially, adequately, and equitably compensated under the purpose and intent of the extra transportation expense and Federal subsidy programs in connection with the excess cost of maintaining in wartime adequate petroleum supplies on the east coast?

(2) If not, what award should be made to Petrol Corp. in payment of its claims?

This reasonable request for arbitration was denied.

Mr. FRASER. Why?

Mr. CALLIS. Again, the agency stated that they had reviewed the matter and given it a lot of consideration.

Senator MOORE. What agency?

Mr. CALLIS. These were joint meetings between OPA, PAW, DSC, and the Maritime Commission.

Senator MOORE. I see.

Mr. CALLIS. They stated that the plans as promulgated and as written did not give them the authority to make any retroactive payments and that, while the Reconstruction Finance Corporation was a commercial corporation and could be sued, they did not feel that they had the authority to agree to arbitration and therefore reluctantly denied our claim for arbitration.

Mr. FRASER. They felt that under the statutes they did not have the power to submit to arbitration; is that it?

Mr. CALLIS. That is what they stated. We tried to show them where they did have that power, but we could not convince them.

Accordingly, Senate bill 1327 was introduced in the first session of the Seventy-ninth Congress to provide for the relief of Petrol Corp. This bill is now pending before the Claims Committee of the Senate. On the surface, this bill carries no import other than the fact that Petrol Corp. seeks the right to arbitrate the losses it suffered due to excessive costs incurred in furthering the war effort of which it has been discriminatorily deprived. Actually, the introduction of the bill carries deeper implications. It is the culmination of several years of vain effort on the part of our independent company to survive devious monopolistic practices of large major oil companies, which often appear to be under the illusion that the great American institution of free enterprise is nothing more than an irritant to their own special ambitions.

Mr. FRASER. I take it your lawyers feel that Congress has the power to pass such a bill?

Mr. CALLIS. Yes, sir.

The passage of this bill is important.

Senator MOORE. You mean the allowance of this claim?

Mr. CALLIS. No, simply to arbitrate. All we are asking Congress to do is to tell the Reconstruction Finance Corporation to arbitrate it.

Seantor MOORE. You have the bill filed?

Mr. CALLIS. We are simply asking for arbitration of these claims.

Senator MOORE. I see.

Mr. CALLIS. We are not asking Congress to decide whether we were hurt or not. We are asking impartial people to decide it. And since the Reconstruction Finance Corporation feels we need the assistance of Congress, since we cannot get a check from anywhere else, we are asking Congress to help.

The CHAIRMAN. Of course, there is such a thing as damage without a right to recovery, and unless your bill takes that into consideration, mere arbitration would do you no good.

Mr. Callis. We feel it would clear up in our mind that we haven't been discriminated against and that Ralph Davies and Harold Ickes were right when they publicly announced these plans as being a "must," and that all companies who had a substantial responsibility to the war effort should join, and that while there may be some casualties, everybody was going to be treated alike.

We felt that if they knew what they were talking about when they forecast those casualties there ought to be more red figures in the table than those for Petrol Corp.

The Chairman. It seems to me, Mr. Callis, that the heart of your case is whether or not the plan which you signed gave you the right to claim compensation for the extra cost that you assumed for the transportation of oil. Isn't that right?

Mr. Callis. Let me answer your question this way: The managing subcommittee, after many appeals, agreed that about six words were needed in the plan to correct the inequities that were purported to exist. We do as much business in the communities in which we operate as some of the major companies do. Consequently, if we dropped out, it would not have been an industry plan. We were the only independent in it.

The Chairman. Do you agree that those six words were needed to cover your claim?

Mr. Callis. No, sir. By no stretch of the imagination could any 11 committee members, butchers, bakers, and candlestick makers, read those same words and deny me this payment. The fact that many, many meetings of this committee took place where divided opinion wanted me paid, because the plan says that we were to be compensated for every extra cost above tanker normal for doing the job, certainly leaves room for some question. We agreed to join before we saw the plan, and when we saw the plan we immediately objected. And they said, "We agree with you. We will fix it."

They brought the plan down to the OPA, because OPA then was regulating these price increases which paid us off. They said, "No, we will not change the plan. It suits the industry. You are the only one that is complaining." Of course; I was the only independent. I was the only one out of step. So they said, "Go on back home. Do your job; bring your balance sheets and operating statements back. We will do something for you."

They called William Clayton on the phone and said, "We have a company over here that is about to be closed up because he needs a special subsidy. Everybody else is happy but him." I was exhibit A for plan No. 2, which Jesse Jones and Mr. Clayton promulgated for the industry. Everybody else has been paid but me.

Our attorneys feel that no clarification of the plan is needed now or was needed then. We can prove that millions of dollars were paid under identical conditions, identical circumstances, for doing the same job; but we were not paid, because five men out of nine said "No"—all my leading competitors. Four men said "Yes." They were my competitors, too. I was not paid. That is how technical it is, after many, many meetings.

The Chairman. Of course, what you are bringing to us now is a dispute over a particular claim and the effect of a particular plan, is it not?

Mr. CALLIS. No; we are really asking you, Mr. Chairman, to see that this does not happen again, whatever your national policy is going to be. You have heard days, weeks, and probably months of testimony from the producers, the refiners, and the transporters. I do not know who has preceded me or I do not know who will be behind me.

The marketing end of the business has been the orphan since the day this thing started. I would not be in the position I am in; the Government would not owe me $3,500,000 for money that I paid railroads and my competitors if I had my excess costs reimbursed on the same basis as my competitors. Mind you, I paid most of this money to my competitors for product after I ran out of money importing oil under a directive known as directive 59.

I had to pay the producer, the refiner, and the transporter a profit, and I had to sell it at the same price in order to keep my 60,000 customers supplied with fuel oil and gasoline, while those same companies were making a profit producing aviation gasoline, motor fuel, toluene, rubber, codimer, and selling oil to me. Now, I have no objection to that. The only point is that, if we marketers are going to survive, committee representation must include us marketers. We no longer can absorb conditions where producers, refiners, and transporters sell products a cent and a half or 2 cents below cost. Today, in this very city, you can buy fuel oil delivered to your residence for less money than my competitors are putting gasoline into commercial accounts—the butchers, the bakers, and the candlestick makers.

One of the leading companies, whose earnings went from $3,000,000 to $13,000,000—without naming him, I do not think I should do that—is presently selling gasoline in Philadelphia, Baltimore, and Washington, throughout that territory, on what is known as a Gulf coast basis. He does not refine on the Gulf, he brings his crude oil to Philadelphia from the Gulf. He is selling gasoline on the basis of 5¼ cents, which is the Gulf coast posted price today for high-octane gasoline, plus the War Shipping Administration's posted tanker rate. No one but a producer, refiner, and transporter can do that, because if he loses 2 cents a gallon in his marketing department, he makes it up producing, refining, or transporting, or he spends some of this cushion which he has been making for 5 years, because his earnings have accelerated from $3,000,000 a year to $13,000,000 a year in 1945. I mention that in my recommendations.

The CHAIRMAN. Now, you are stating the familiar suggestion that the integrated company can undersell an independent company with which it is in competition in the marketing field, for example, by offsetting losses with profits in some other branch of the industry.

Mr. CALLIS. There is no question about it.

Mr. FRASER. You mean a major company?

The CHAIRMAN. A major, integrated oil company.

Mr. CALLIS. Mr. Chairman, we have an oil company that operates in Philadelphia, Baltimore, and Washington, that thinks nothing of paying $50,000, $75,000, or $100,000 for a piece of property. One of our oldest churches in Philadelphia last week was sold to one of my leading competitors.

Mr. ENGLAND. You mean for retail distribution?

Mr. CALLIS. Yes; they are going to take down that church and put a four-bay enameled-front service station in at a cost of $50,000. Now,

no businessman, regardless of how many millions he has, how many stockholders he has, and how smart he is, can make a service station pay which cost $200,000; if he got his crude oil for nothing, if his ships cost him nothing, if he had no expenses at the service station, he still could not make a fair return on his invested capital. There are hundreds of those stations being purchased today with war profits by the same people with whom I must compete. They are the things which I am recommending that this committee see to it do not happen in the future. If you want your marketing segment of the business to survive; if you want small business, if you want to give small business help other than lip service, prevent these integrated oil companies from underselling their competitors, taking their markets, with profits they make producing crude oil, ship profits that they make, and pipeline profits that they make, to say nothing of refining profits that they make.

The Chairman. Your statement is that in the present conditions, profits in one branch of the industry, or in another, may be used, and are being used, to make it unprofitable for an independent marketer to survive?

Mr. Callis. Yes, sir; and I will illustrate that fact by taking the two leading companies in the territory. They are selling gasoline today for less than the witnesses have told you it costs to make it.

Mr. Boyd just referred a while ago to 5-cent gasoline in the Gulf, or gasoline being three-quarters of a cent under the ceiling. The ceiling is five and three-quarters. That is 5 cents today.

These integrated marketing companies, with millions of dollars to back up their marketing, are selling gasoline today netting back to the Gulf 5 cents a gallon. My costs and their costs are thrown out the window. They do not get back one penny. So the jobbers and the distributors and the dealers and the gasoline marketers are faced with competing with that kind of competition.

Now, we have had to sell for 4 years almost everything we bought for what we paid for it. We have had a few supply contracts which gave us some profit so that we show only the losses that are listed on my second chart. (Table printed *supra*, p. 449.)

We do $15,000,000 worth of business annually, and we were told to carry on, which we did. Now, we have had losses for years and we are accustomed to no profit. We are a small company; we are privately owned and privately managed. These companies cannot continue to juggle crude prices, tanker prices, production prices, sufficiently to operate their companies indefinitely the way I have been operating mine.

I think their stockholders are entitled to a break. If you fix their stockholders, you will fix mine. If you make them market at a profit, I can make a profit. If you do not put a stop to this monopolistic trend, this selling below cost in order to produce a barrel of crude oil, to transport a barrel of crude oil, to refine a barrel of crude oil, you will not have any more independents like me.

Mr. Fraser. Do you say that this selling below cost is a postwar development, or did it exist before the war?

Mr. Callis. It only occurs when there is a surplus of gasoline.

Mr. Fraser. I notice that in 1940, Petrol Corp. made a substantial profit.

Mr. CALLIS. Gasoline was selling for 8 cents a gallon in 1940, which is now being sold for 6 cents at Philadelphia.

The CHAIRMAN. You are talking about a practice which was cited by former President William Howard Taft in a special message to Congress as an outstanding example of monopolistic practice which should not be permitted; that is to say, the use of superior resources to undersell a competitor and crush the competitor out of business.

Mr. CALLIS. Yes, sir; I had prefaced my remarks in almost that same language.

The CHAIRMAN. Now, of course, a confusion arises from the fact that most of your discussion has been devoted to a particular claim over which this committee has no jurisdiction.

Mr. CALLIS. I am not asking you, sir. I am only citing that as a wrapped-up, conclusive, indisputable package, that if you let these major oil companies, who are primarily interested in production profit, continue to run the show and not let us put our foot in the back door of administrative committees, or at least let us have one member on them, so we can holler if nothing else, we shall be run out of business.

The CHAIRMAN. You have been doing a little hollering.

Mr. CALLIS. The least they should have done, Mr. Chairman, is to let us say, "We do not agree with you." Maybe there will be some casualties, and we will be the casualties.

The thing we do object to, and the thing we feel has been deliberately done in this case, is this: They wrote these plans to suit themselves. They forgot all about us. "To hell with the marketer; let's win the war."

A grand job has been done. The petroleum industry and the PIWC, and Mr. Ickes and Mr. Davies and these 200 major fellows that have been down here helping them do the job, have done a grand job. But they have discriminated against us marketers. They forgot about us.

Now, we are not asking this committee to tell Congress to pay our bill; we are asking you in this meeting to at least let the independent marketers come in the back door at industry committee meetings. Throw us a bone; let us live. Do not let those fellows make millions and let us eat bricks and stones and mortar and tank trucks, because the diet is pretty tough. (Resuming prepared statement:)

It (the passage of S. 1327) is important. It will mean that the security of small business in the national economy has been recognized as an essential ingredient of the American way of life. Its passage will be a direct blow to the trend toward monopoly and purposeful discrimination. Monopoly in any sphere is dangerous. Monopoly eventually results in scarcity where there is plenty. The stoppage of competitive opportunity for business undermines a nation's well-being.

It is unfortunate that, because large major oil companies are in a position to achieve the ultimate elimination of competition in the marketing of petroleum products, an independent oil company is forced to rely on the protection of Congress. It is not only unfortunate, it is alarming. The fact that any group could occupy so strategic a position is as much of a threat to the well-being of the Nation as it is to the survival of one independent company.

To date the pressure on Petrol has not let up. The premature termination of most of the wartime petroleum regulations shortly after VJ-day, before supply and demand were in balance, resulted in a shortage of kerosene and fuel oils. Previously, under directive 59 issued by the Petroleum Administration for War, products were allocated among suppliers based on their relative sales positions in 1941. This program required major oil companies to sell Petrol its fair share of available products. As soon as this directive was terminated, however, these major companies discontinued selling Petrol its normal share. The shortage of kerosene and fuel oils was aggravated by the existing price ceilings which permitted refineries to realize longer margins on gasoline than on kerosene and fuel oils. Consequently, refiners did not adjust their runs to increase yields of kerosene and fuel oils and continued to overproduce gasoline, which causes this condition in Philadelphia, Baltimore, Washington, and New York, where fuel oil is now selling for more money than gasoline. This supply shortage was forecast first by Petrol in telegrams sent to the Petroleum Administrator and the Office of Price Administration. Price incentive adjustments on some products were made after hearings held by OPA consequent upon Petrol's protests. But Atlantic coast supplies of kerosene and fuel oils are still extremely short and many of Petrol's accounts have been taken over by major companies. The same companies who refused to sell me immediately when the directive was put out have taken my customers. This is an ingenious monopolistic device. On the surface, it appears an independent company loses its customers because of inability to provide adequate supplies. However, this situation is currently under investigation by the Department of Justice through the facilities of the Federal Bureau of Investigation.

The CHAIRMAN. I might say that I have encountered the same condition in an altogether different field, one in which no question of monopoly arises and no question of major or minor petroleum companies arises. It may be of interest, because it illustrates one of the results of lifting these controls.

Mr. CALLIS. Yes.

The CHAIRMAN. In my State there was a distributor of ice cream, a retailer in ice cream, who, because of Food Limitation Order No. 8, was protected in getting his ice cream mix from a certain processor. That processor, like the major company from which you have been buying your kerosene and fuel oil, was required to sell this retailer the same proportion of mix that he bought in 1941, or whatever the base year was. But when the Department of Agriculture lifted the rule and lifted the limitation order, then the processor said, "I am sorry, I cannot sell you any more mix." He used the mix himself to take the other's customers.

I may have told that story before to this committee. If so, I am sorry to duplicate the record.

Mr. ENGLAND. It is a good story.

The CHAIRMAN. And a true story, Mr. England.

Mr. ENGLAND. Yes, sir.

The CHAIRMAN. But it is an illustration of what comes when Government controls are lifted.

Mr. CALLIS (resuming). Another instance of putting pressure on independent nonintegrated marketers occurred early last fall when

the Office of Price Administration withdrew fuel oil and kerosene ceiling prices on sales between refiners while retaining the ceilings on sales of such products to jobbers and distributors. They very carefully and cleverly kept them on us marketers. The effect was to permit major integrated oil companies to bid against each other and obtain these scarce products, while independent marketers could pay only ceiling prices. Naturally, independent marketers were left without supplies. This choice bit of discrimination was so blatant that the Office of Price Administration reversed itself and restored these price ceilings on sales between refiners.

It is now reported that OPA intends to raise the price of crude oil 10 cents per barrel but will not grant any adjustments in refinery or retail prices at this time. Thus, a further squeeze will be put on independent refiners and marketers who have no over-all profit increase such as will be enjoyed by their integrated major-company competitors. An independent marketer, such as Petrol, having a contract purchase arrangement with a refiner, dependent on the price of crude oil, cannot absorb this increased crude cost on top of the recent labor cost increase of over 18 percent, without any price relief being afforded. This policy means destruction of Petrol's business and absorption of it by major oil companies.

Due to the enormous and unprecedented profits realized by the major oil companies since 1941, their coffers are bulging with cash. They are now in an unusually favorable position to maneuver a squeeze on independent marketers. They can easily absorb current losses, if necessary, to put independent marketers out of business. Discriminatory government regulations sponsored by major oil companies have depleted the working capital of Petrol and rendered it impotent to combat these loss-producing tactics.

As to the formulation of a national petroleum policy, I would like to suggest this committee recommend, first, that there be an eventual elimination of the subsidizing of losses incurred by major oil companies in one branch of the industry with profits realized in another branch of the industry. The marketing operations of major companies should be conducted as a separate business and provided with entirely separate management.

Senator MOORE. You are now talking of segregation of facilities?

Mr. CALLIS. Yes, sir; only in marketing.

The CHAIRMAN. Now, do you mean by this to say that there are integrated companies which suffer losses in one branch but make profits in another, which enables them to have an over-all profit but which, nevertheless, are drawing subsidies from the Government for the losses incurred in one branch?

Mr. CALLIS. No.

The CHAIRMAN. You say "No"?

Mr. CALLIS. No, sir; I am in no position to make that statement.

The CHAIRMAN. I thought that was implied in that recommendation.

Mr. CALLIS. No, sir. I want the reference to "subsidizing" limited to what they do themselves in their own company.

Senator MOORE. When you say "subsidizing," you mean that you want some sort of regulation to prevent these integrated companies from charging the losses to another branch of their business?

Mr. CALLIS. That is right.

Senator MOORE. That means the segregation, then——

Mr. CALLIS (interposing). Of their marketing facilities. If, under a national petroleum economy, a producer can have a lifting cost of 30 cents and a drilling cost of 30 cents and make a profit of 50 or 60 cents for his capital investment in that well, and by reason of his profit on crude oil, a profit on transporting that crude oil to his refinery and another profit running the refinery—if those three profits continue to be so lucrative that they can lose in operating the marketing end of their business as much as a cent per gallon on their entire annual business, obviously that business ought to be separated.

The CHAIRMAN. Since you used the word "subsidize," and since that word commonly connotes a payment by the Government, I suggest, therefore, that what you meant was not "subsidizing" but "offsetting." Is that right?

Mr. CALLIS. That is a good correction, sir.

The CHAIRMAN. That is what you meant?

Mr. CALLIS. Yes, sir.

The CHAIRMAN. Very well. Proceed.

Mr. CALLIS. The second recommendation is that there be adequate assurance of supplies in an open competitive market and the possibility for independent companies to use common carrier pipeline facilities on reasonable tenders and tariffs.

I would like to clarify that a moment. In Pennsylvania, the price structure regulated or set or established or published by the leader was originally increased in the territory from the water front by the exact amount of the rail transportation. When pipe lines were built, those differentials were maintained, because there are only four pipe lines which cross the State of Pennsylvania by companies who market there.

Today the price structure is no longer based on rail transportation, which all companies must use, or motor transport; they are now based on pipe lines. Obviously, no one can compete with pipe line owners, unless they use the pipe lines, which are common carriers. The lines are usually full, and a small business very rarely has an opportunity to use them.

We are asking that the national policy be such that, since pipe lines are usually approved by Government on the basis that they are common carriers, anyone should be allowed to use the carriers who can make a reasonable tender, and the tender should carry a reasonable tariff.

The third recommendation is that there be equal representation on any future Government-industry oil committees from both major and truly independent companies and a representative from the Department of Justice, or an impartial public member, on every such committee to see that free competition is preserved in the public interest. As you have seen, unequal representation may ultimately lead to the absorption of independent companies by major companies or their elimination from the industry.

Since I have drafted this memorandum, the President has signed the Bland ship-sales bill. Unfortunately, again, that bill forgot all about the marketer, or the so-called nonowner of tankers or charters. There is absolutely no provision whereby an independent who used tankers before the war may now use the millions of Government dollars which are in surplus laid-up tankers, because you can only acquire them if you have the cash to pay 25 percent down.

There is no provision for leasing, and only those companies who have tremendous cash resources can put down $500,000 on a $2,000,000 boat.

We therefore would like to add as our fourth recommendation for the marketer's protection in the national policy, that the Bland Ship Sales Act be amended to provide for leasing of tankers to small business.

Gentlemen, I have told you the story of Petrol Corp.—how, through discrimination and unfair practices on the part of major oil companies, this independent company has all but been forced to go out of business. I have told you this story not only because I am working in the interests of Petrol Corp., but because, as I said before, I believe that the vicious practices involved in Petrol's case are a threat to the welfare of the entire Nation.

Mr. JACOBSEN. Mr. Chairman, may I have a minute?

The CHAIRMAN. Mr. Jacobsen.

Mr. JACOBSEN. I would like to say, with regard to Mr. Callis' paper, where he speaks of the way the Petroleum Administration for War was staffed, I do not think there is anybody here from the PAW, and, in justice to that Administration, I want to say that Mr. Davies, time and time again, pleaded with us at the meetings of the Petroleum Industry War Council to supply men to the Petroleum Administration for War, and time without number he said, "I prefer independents."

He pleaded with us independents to let him have men from our organizations to put into his office. He stressed that he preferred independents precisely to avoid the charge that Mr. Callis referred to, of too many of the major companies.

Of course, the fact of the matter is that, in a case of that kind, a large company has more men to supply. They can better spare men, and the constant answer that Mr. Davies got from the independents was, "We are so small we cannot supply you." But if there were too many major-company men, that was not Mr. Davies' fault, because he pleaded for independents time and again.

Next I would like to say, with regard to the Petroleum Industry War Council and the committees that were appointed by the Petroleum Industry War Council, I think it is entirely fair to say that in all these war committees the independents were given full representation. For instance, on what was perhaps the most important committee of the lot, the national petroleum policy committee, it was about 50–50. I think there were about 16 members, with 8 independents and 8 from the majors. I have the list of them here.

Mr. CALLIS. May I answer that, Mr. Chairman?

The CHAIRMAN. Certainly.

Mr. CALLIS. Mr. Jacobsen, if you will read that statement, I only claimed that the PIWC did not have one east coast independent marketer among its membership.

Mr. JACOBSEN. I understood that you complained about the composition of the committee.

Mr. CALLIS. If you will read my statement, I only said that the PIWC would not know about the problems of us marketers because we were not entitled to be members of the council. It is not my company. I am referring to independent east-coast marketing companies.

We had no representative. You had Mid-Continent representatives, independents, but you did not have one independent member on that committee representing the east coast. And Mr. Ralph Davies, Mr. Harold Ickes, Mr. W. A. Jones, and John Brown were telegraphed, not only by my company but by other east-coast independent marketing companies, for representation.

They felt that, with all of the east-coast leaders on the committee, they probably had enough marketers. They did not think they needed us. My only complaint was that, had we been allowed one member, we could have asked that the features of these two plans that were discriminatory be made an issue by the PIWC.

Mr. Jacobsen. With regard to the question of subsidizing losses from the various branches of the business, I sometimes get a bit confused, because some of the independent producers have made the complaint that the producer was the forgotten man with oil prices frozen at the 1941 level. And they say that the major companies make all their money out of refining and marketing. Marketers claim they make it out of production, and refiners claim they make it out of marketing and production.

Now, they cannot all be right. With regard to the question of segregation, we are not going into that in detail, and we could not do that, because it is too late now—I would say that Mr. Callis' proposal amounts in effect to trying to legislate profit into a certain branch of the business for each individual company, large or small, and I do not see how that can be done.

The Chairman. Mr. Jacobsen he made a rather striking point here when he cited the instance of the purchase in Philadelphia for $200,000 of a site for a distributing station which, in normal circumstances, could not possibly pay off on such a capital investment.

Mr. Jacobsen. I do not know the circumstances of it, of course. I am not engaged in that line of business at all, and I certainly do not hold any brief for the anonymous company that is reported to have done that.

But it might be partly advertising. They might say, "Well, we will put up a very fine station here. Some other companies spend the same amount of money on a 6-months' radio program. We will not do that. We will use this as advertising."

The Chairman. Now, let me say that I am looking at this without any implication of bad faith on anybody and without any thought that there is any connivance or conspiracy involved. We are dealing solely with an actual fact which seems to be that superior resources can be used and maybe are inevitably used to the disadvantage of small business.

Mr. Jacobson. Right.

The Chairman. That is because a small company with small capital resources, without the ability to sustain losses over a long period of time, and without the ability to offer satisfactory collateral for bank loans, is simply not in a position to compete with a large company with vast resources and property scattered all over the country.

Mr. Jacobsen. That is right.

The Chairman. Now, that is, in effect, what confronts us. The figures which were put into the record at my request by Mr. Snyder, of the Department of Justice, tell the story of the continuing progress of concentration. That is what we have to meet.

Mr. Jacobsen. That is right.

The Chairman. If this concentration continues, if the little fellow is continually pushed out of business, then I say to the big company, "The time is coming when you will be pushed out of business by Government."

Mr. Jacobsen. I agree with that.

The Chairman. So that it is a tremendously important problem for the big man as well as the little man to confront.

These hearings on the independent companies have progressed to this point, and only Mr. Faber and Mr. Callis have appeared to speak for the independent marketer.

With respect to all the rest of the testimony here, one gathers the impression that the majors and the minors are living together like the lion and the lamb, and it is all perfectly fine.

I know Mr. Faber testified here the other day, after I had gone, because he could not afford to go back to Wisconsin and come back again for this hearing on Wednesday.

Another illustration of the inability of the small man, with his lack of resources, to compete on the same level with the larger company with its larger resources is, of course, indicated by that fact.

I look at this thing frankly, without any thought of condemnation, because I think it is much deeper than that. I think it is this fundamental question of "Where do we want to go?" If we want to maintain free enterprise, and by that I mean really free enterprise, if we want to hold the door open for the man without capital resources to enter any line of business and thrive and prosper, certainly we have to find a way to protect that person from the cumulative effect of mere size. Isn't that right?

Mr. Jacobsen. I agree with you, sir, completely; but I would like to say this, that first of all coming down to the specific case that Mr. Callis mentions, I am by no means sure that this segregation is the answer. You have stated the problem correctly. It is extremely important and should be investigated from the bottom up.

We cannot go into the thing in great detail; but if you were to say that no company can operate at a loss, then what does that mean? That it cannot operate at a loss for a month, for 6 months, for a year, or how long? And does it mean that any company, large or small, engaged in marketing or refining, or whatever it may be, must close up because they lose money for a week? There is a question. Can you lose money in one State if you make it in another? Is it all right if your marketing department as a whole makes money? Can you then lose it in certain branches of your marketing department? There are just a thousand questions.

The Chairman. So as to make the issue perfectly objective and eliminate all question of petroleum, I would like to call attention to the fact that there was a time in the history of corporation law when no corporation would be created to engage in more than one line of business. In those days, it was thought that since a corporation was an artificial organization entering the field of commerce and industry in which individuals primarily were active, the corporation should not be given a competitive advantage over the individual by allowing the corporation to engage in more than one line of industry. But that time has passed. Now corporations may engage in any business, and

the consequence is that we find gathered under one managerial group subsidiary corporations which engage in utterly unrelated businesses.

Mr. JACOBSEN. That is right.

The CHAIRMAN. That, of course, adds to the process of concentration of economic power, and when you concentrate economic power, you inevitably close the door of opportunity to those who are coming afterward, because you are creating vested interests; and when you create vested interests, you create the supreme obstacle to the development of free enterprise in the coming generation.

Mr. JACOBSEN. Yes, sir, that is perfectly right.

The CHAIRMAN. Now, I wish you would give me the answer to it. We all agree on what the problem is.

Mr. JACOBSEN. I do not have the answer. I have only one more word to say, which is this: We want free competitive enterprise. If we have competition, somebody gets hurt, whether it is a prizefight or a football game or a horse race, or whatever it is. Competition means one gets ahead of the other fellow, and we cannot have a system of free enterprise if the Government has to undertake the obligation to see that each and every individual prospers.

The CHAIRMAN. Of course, that is not what Mr. Callis is urging at all. He is not urging that the Government undertake to prevent any competitor from losing; he is only asking this committee to recommend that no corporation or no operator should be permitted to use its superior assets for the purpose of crushing a competitor.

Mr. JACOBSEN. That is right.

Now, with regard to the particular question of segregation, I would like to say that, and I repeat, I am not in that line of business. I am only in one branch, namely, production. But the opinion among other independents does not agree altogether with Mr. Callis. For instance, Mr. Majewski is violently opposed to segregation, and he has a paper that he would like to present to your committee on that subject.

The CHAIRMAN. He indicated to the committee the other day that he was opposed.

Mr. JACOBSEN. Yes, sir.

Mr. CALLIS. Mr. Chairman, to keep the record straight, may I say something on two subjects, in answer to Mr. Jacobsen?

The CHAIRMAN. Certainly. This is an open forum.

Mr. CALLIS. Mr. Jacobsen, my company contributed a substantial percentage of manpower to the administration of PAW.

Secondly, I think my company, 13 years old, with 700 employees, 350 of which are male, contributed 61 percent to the military. We are the youngest organization marketing petroleum products in competition with the leaders in the Philadelphia, Baltimore, and Washington area. We had four of our keymen, despite the 61 percent loss to the military, in the Petroleum Administration for War or other agencies carrying on the war effort.

I would also like to clear up for the record the case about the PIWC. We only complained that we did not have an east-coast marketer. I begged Mr. Majewski to help stop this east-coast discrimination in these two plans. Mr. Majewski said it was not of national interest.

I was amazed that this committee heard a paper at its first meeting that the PIWC's committee, appointed by Mr. Boyd, to discuss the

independent companies' position in the national policy, had conferred with marketers of its own PIWC group and other marketers, and decided that marketing was not of national moment.

Third, about this segregation business, we simply feel that something should be done to stop powerful segments of the industry from selling products below the cost to produce it.

Now, you are a producer?

Mr. JACOBSEN. Yes.

Mr. CALLIS. Gasoline is selling in Philadelphia, in Baltimore, and in Washington for less than it costs to produce, transport it, store it, and deliver it. That is what we are asking be stopped. How it can be stopped we do not know. We do not have the answer. All we say is that if it does not stop small business cannot survive.

Mr. JACOBSEN. Yes, but where do you take your cost of production? The average, the high cost, or the low cost?

Mr. CALLIS. You can take it wherever you want to. Take it on the basis of the low cost of today. If we understand it, the cost to produce 85-octane gasoline, which is the average going company-house product today, is not less than 5 cents, and it cannot be transported in tank ships, put in a storage station, and sold f. o. b. your terminal for less than 6 cents a gallon at Philadelphia, Baltimore, and Washington; it cannot be done and make a profit for the refiner, producer, or shipper.

The CHAIRMAN. That may be due to the OPA regulation.

Mr. CALLIS. No, sir; it does not have a thing to do with it.

The CHAIRMAN. It has not?

Mr. CALLIS. We are 1 cent under the allowable OPA ceiling.

The CHAIRMAN. The regulation to which reference has been made here which does not permit a recognition of the production costs of the kerosene and fuel oils may be the cause. The testimony here has been that OPA regulations have caused an unbalance in the industry by which gasoline which is not needed is being made and is piling up.

Mr. CALLIS. Of course, I cannot agree with that. I am a member of the OPA fuel price committee.

The CHAIRMAN. That is very interesting.

Mr. CALLIS. It is preposterous to me that an industry asks for a price increase on the crude material that the products are made from. The industry's payload is gasoline. The best brains in the business submitted statistics to the OPA showing that if fuel oil and gasoline were to be produced the way the public wants to buy it, the industry would have to cease running 40 percent, 42 percent, 43 percent, or 45 percent of its crude for gasoline.

The industry asks for a crude increase; we ask for an increase on fuel oil so we can run more of it but we give away a cent and a half of the going market price of gasoline because we are not good enough managers to stop overproducing it.

We have overproduced gasoline since VJ-day, despite the best brains in the business telling the refiners the storage tanks will not hold this gasoline if you do not stop producing it by December 1. We still went on and produced it. So, then, we came down and asked Government to bail us out of our mismanagement. We have cut the price of gasoline, which is the pay product, a cent and a half a gallon, and we have asked for a half a cent increase in the price of fuel oil.

Those two things are inconsistent.

Colonel WRIGHT. Mr. Chairman, the Army-Navy Petroleum Board has probably made the most exhaustive survey and study, as Mr. Boyd knows, of this present situation. We are buying gasoline in the military considerably under the OPA price. We are buying it offshore right now. We are buying on the average of 1,000,000 gallons a day at roughly 6⅛ cents. That is for the United States Army specifications, which is 80-octane premium gasoline.

The CHAIRMAN. But as to fuel oil, you cannot buy that?

Colonel WRIGHT. Yes, sir.

The CHAIRMAN. Now, the industry says that the reason for that is the OPA regulation with respect to fuel oil.

Colonel WRIGHT. Yes, sir; I was coming to that. Back in December we were short 16,000 barrels of kerosene every day, and we went to the OPA, and we went to the State Department, and everyone, and we told them our troubles. They suggested that we put men out in the market, military officers, which we did. Inside a very short time, and with a half-cent price change in the Gulf Coast district 3, we did improve our kerosene situation, but in doing that we aggravated, because we had 8,000,000 barrels of kerosene to buy up, the situation in gasoline. And that is what makes the thing a vicious cycle.

You have this gasoline; you cannot get the Navy's special or the kerosene without getting more gasoline, and it is going to continue that way until we either start to consume more gasoline or we drop our requirements for the residuals and some other products.

The CHAIRMAN. In other words, if the industry were to cut down the manufacture of this gasoline, of which there is a surplus, it would be unable to make even the proportion it now makes of the heavy oils you desire.

Colonel WRIGHT. Yes; there is only a certain percentage of the cut in the crude that they can get out. A percentage of it has to come out from each one.

The CHAIRMAN. That is a different question from the one that was under discussion here, and it is a different question from the one to which Mr. Boyd wanted to address himself when he rose a few moments ago.

Mr. Boyd, may I call upon you?

Mr. BOYD. How did you know what I wanted to address myself to a few minutes ago? Mr. Chairman, I am the same William R. Boyd, Jr., that my friend, Mr. Callis, kindly advertises on page 4 of the memorandum. I am a little jealous of the reputation of the now defunct PIWC. I did not appoint the members of the Petroleum Industry War Council; they were appointed by the Petroleum Administrator.

The Petroleum Administrator did not elect me chairman of the committee or did not appoint me. The committee itself elected me.

I do not recall offhand the number of marketers on the committee, but on the marketing committee of the Petroleum Industry War Council, which was composed of 10 members, there were 5 of them who claimed to be independents, and one of them claimed to be a co-op, and another claimed to be an independent representative. I appointed that committee.

I have heard today Mr. Callis' story for the first time. The committee which developed this plan about which he talked was not the PIWC committee. It was a committee, as I understand it, of district

1. They made their report to PAW, and it was approved by PAW and OPA and Defense Supplies Corporation.

I know Mr. Callis does not have any idea of conveying that impression, but I do not want you to get the impression that PIWC handled this matter. I know more about it today than I ever did before. I never saw the plan. It never came before PIWC, and I do not know that I had ever talked to Mr. Majewski or the chairman of the PIWC committee that you mentioned awhile ago, but I know that that committee to which you refer is supposed to be composed of five independent marketers, one co-op, and four majors. On the PIWC was Fred Hurley, who claimed to be an east-coast marketer. He also was the head of the National Oil Marketers Association.

I just wanted to make that clear, and I know Mr. Callis had no intention of having you think that that was a PIWC committee. It was not; we had nothing to do with it, and it never came before us.

The Chairman. Thank you very much.

Mr. Callis. Mr. Boyd, my only complaint is that you put the representative of the others on and left off our crowd.

Mr. Boyd. I did not appoint the group, sir.

Mr. Callis. That is agreed.

Mr. Boyd. I was just a member of it, just like anybody else.

The Chairman. Are there any other questions? [No response.] Are there any other witnesses? Tomorrow, the Federal Trade Commission will be represented.

Mr. England. I think the cooperatives will be represented, too.

The Chairman. That is right, the cooperatives will be here tomorrow, too.

Mr. Callis. Mr. Chairman, may I thank you and Senator Moore for having received my statement? It was a pleasure to come here, and I am grateful to you for it.

The Chairman. Thank you, sir.

We will meet again at 10:30 tomorrow morning.

(Whereupon, at 5:30 p. m., an adjournment was taken until 10:30 a. m., Thursday, March 28, 1946.)

THE INDEPENDENT PETROLEUM COMPANY

THURSDAY, MARCH 28, 1946

United States Senate,
Special Committee Investigating Petroleum Resources,
Washington, D. C.

The special committee met, pursuant to adjournment, at 10:30 a. m., in room 424, Senate Office Building, Senator Joseph C. O'Mahoney, chairman, presiding.

Present: Senators O'Mahoney (chairman) and Moore.

Also present: Henry S. Fraser, chief counsel to the special committee;

Appearances as noted previously with following additions:

Henry A. Peel, Petroleum Price Branch, Office of Price Administration; and

Dr. Julian Duncan, Interstate Commerce Commission.

The Chairman. The committee will be in session.

I understand that Mr. Kieser, a senior attorney of the Socony-Vacuum Oil Co., of New York City, has made application to the committee for an opportunity to take a few minutes at the opening. Very well, sir.

STATEMENT OF CARL KIESER, COUNSEL, SOCONY-VACUUM OIL CO., NEW YORK, N. Y.

Mr. Kieser. Mr. Chairman, yesterday Mr. Callis made some very sweeping charges against the major oil companies on the eastern seaboard and their employees. At the time I felt a study of the statement revealed them to be so lacking in substantiating facts that little, if anything, need be said on them. On further reflection, I felt they should not go unchallenged, and I wish to deny, on behalf of my company and its employees, any wrongdoing of the kind asserted by Mr. Callis, and it is my belief that other companies would probably take the same position.

I want to make a couple of comments on Mr. Callis' main thesis. I am not going to go into the question of his complaint of unjust treatment by Government agencies, because that is a matter for those agencies and their administration. He seemed to say, as I understood him, that the independent had to operate in a bad economic climate caused by the alleged monopolistic practices of the major companies and their large resources. He seemed to feel that that climate was fatal.

Now, I would like to test his principal thesis by his own record as he gave it. His company started in about 1934, when the depression——

The CHAIRMAN (interposing). As I said a moment ago, before we opened the session, I regret very much that Mr. Callis is not here. He has had no notice of any purpose on the part of any person to controvert any particular statements which he made. Yesterday, at the conclusion of his testimony, the Chair called upon all and sundry here to make any statement they cared to make, and nobody responded. If there is one thing of which this committee is jealous, it is its desire to be completely and utterly fair about the presentation of the evidence. It was known from the very beginning of this session that Mr. Callis was to testify, and I know that the major companies were very much interested in what he was going to testify to, because some of the representatives came to me seeking advance information as to what he was to testify about. I was not in a position to give them any information at that time, but they were here, and they were represented yesterday, and when the opportunity was granted to them to challenge his statements it was not taken advantage of, with the exception, of course, of Mr. Jacobsen and Mr. Boyd, who were present and who did speak.

Now, the burden of Mr. Callis' statement was not a charge of wrongdoing, which is the matter to which you are responding now, as I heard his statement, except, of course, for the charge that the committee of the Petroleum Administration for War, which handled this compensation plan, had no marketing representation upon it. Except for that, the burden of his statement was that by the superior resources of the major companies and their integration the independent marketer was at a great disadvantage.

Mr. KIESER. That is what I want to mention. We had no knowledge of what he was going to talk about, Mr. Chairman, and I would like to reflect upon his remarks. That is why I would like to be heard just for 2 minutes this morning.

The CHAIRMAN. It may be necessary for this committee to have an all-out session upon this marketing business before we are through.

Mr. KIESER. I just want to say in the period of time in which Mr. Callis' company has been in operation it has had an astonishingly remarkable record. It had grown to a size where it was doing $15,000,000 of business, with 700 employees and serves 60,000 accounts, and I say his own record of success is a refutation of that bad economic climate which he asserts.

The CHAIRMAN. What would you say about the red figures which he submitted here?

Mr. KIESER. That is a matter that he attributes to the Government agencies on which I cannot comment. That is his own statement.

The CHAIRMAN. Well, his statement was that the major companies, having the opportunity to secure compensation, acquired tremendous war profits, not only because of the relief that was accorded but because of the fact they were integrated and that a company engaged in only one branch of the industry does not have that advantage.

Mr. KIESER. And, as I say, his was a successful company in that economic climate. The losses he talked about were attributable, as he said, to the administration by the Government of Government rules of the game, administered by the Government.

The CHAIRMAN. Let us talk about the general subject then, Mr. Kieser. Do you contend that the opportunity is still present in the

marketing business for an independent, nonintegrated enterpriser to enter this business and prosper?

Mr. KIESER. I do, and I say Mr. Callis has proved it by his own record. He was successful. That is all I have.

The CHAIRMAN. Is there anything else?

Mr. KIESER. No, sir.

The CHAIRMAN. Very well, sir.

STATEMENT OF F. R. OLMSTEAD, GENERAL COUNSEL, CONSUMERS COOPERATIVE ASSOCIATION, KANSAS CITY, MO.

Mr. OLMSTEAD. Mr. Chairman, and members of the committee, my name is F. R. Olmstead. My business address is 318 East Tenth Street, Kansas City, Mo.

I am a member of the Colorado Bar, and am now serving as general counsel of the Consumers Cooperative Association and its subsidiaries, located at Kansas City, Mo. I appreciate the opportunity to appear before this committee and am appearing for the sole purpose of answering the charges which have been made by prior witnesses against farm cooperatives, not for the purpose of offering a solution to any problem concerning the oil industry.

I want to make clear at the outset that farmers through their cooperatives have entered the petroleum field solely to supply their own needs and not for the purpose of engaging in any phase of the oil business as such, as I believe might be inferred from the testimony of Mr. B. A. Hardey, the president of the Independent Petroleum Association. In this connection, gentlemen. I submit that Mr. Hardey's testimony indicates a woeful lack of knowledge on his part concerning the true character and functions of farm cooperatives. As a matter of fact I think it may be assumed that in the charges which he made he was merely repeating as facts, without verifying their accuracy or correctness, the false statements, half-truths and unwarranted assumptions with which the so-called National Tax Equality Association has propagandized the oil industry and other segments of our business economy during the last 2 years.

I might add that by means of well-organized, well-directed, and well-financed but vicious and unscrupulous campaigns the National Tax Equality Association has been eminently successful in embittering many otherwise astute businessmen like Mr. Hardey against farm cooperatives.

The CHAIRMAN. Again, may I suggest I do not like an attack to be made upon a nonrepresented individual or organization. This committee had no knowledge that there was to be a controversy between co-ops and the National Tax Equality Association. I know nothing about that association. I am frank to say to you I would much prefer to have you deal with the facts. The statement that was made by Mr. Hardey—I think he was the witness——

Mr. OLMSTEAD. Yes.

The CHAIRMAN. Was that the farmers' cooperatives, which originally started as organizations designed to supply their own members, are now branching out not only into the business of selling petroleum products to their members, thus entering into competition with other distributors who are not co-ops, but are also entering the producing

field and thereby becoming integrated companies, entering the whole field of production and distribution of petroleum products, including, of course, the refining of petroleum products.

Mr. OLMSTEAD. Yes

The CHAIRMAN. So the question is: Do the cooperatives engage in the distribution of petroleum products to other than their own members, and on what scale if they do; do they engage in the production and refining of crude oil, and are they therefore becoming competitors with the normal factors of the petroleum industry; and under the tax provisions which govern cooperatives, are they able to get a tax advantage over these other operators? That is the question before this committee, and we would be very glad to have you talk about that, and I would prefer to have you avoid making an attack upon unrepresented agencies.

Mr. OLMSTEAD. Mr. Chairman, we were appearing here solely for the purpose of answering the charges made by Mr. Hardey, Mr. Fell, and Mr. Majewski, and I was introducing this preliminary statement to give the committee a background of the charges which have been made by these men. We feel very definitely, Mr. Chairman, that these witnesses are merely repeating the utterances of the National Tax Equality Association.

The CHAIRMAN. If you continue in that vein it will be necessary for this committee to give an opportunity to the other people to come in and answer you, and we want to confine ourselves to the facts that pertain to this particular hearing. The members of Senate committees do not have time to cover the whole water front.

Mr. OLMSTEAD. We have had an opportunity, Mr. Chairman, to appear before the House Small Business Committee in a rather comprehensive hearing on the attacks made on cooperatives, and it is not our purpose to repeat all of that testimony at this time. The House Small Business Committee last spring conducted a series of hearings at the instance of small business, and as a section of that hearing reviewed the attack against cooperatives at some length. The report of the House committee has not yet been released, but I understand it is about ready.

The specific charges made by Mr. Hardey, as indicated by your chairman are, first, that cooperatives have entered all fields of the petroleum business. I think I can answer that, Mr. Chairman, by saying that farmers' cooperatives have not entered the oil industry for any purpose other than to serve their own needs. The farmers of this country are using the cooperatives simply as a business mechanism by which they can obtain their petroleum products and their other farm supplies at cost, and with an assured source of supply, and with some control over the quality of the product that they get.

Mr. FRASER. Your sales are to other than farmers, are they not?

Mr. OLMSTEAD. Our sales are primarily only to farmers.

Senator MOORE. Don't you make sales to anybody who drives up?

Mr. OLMSTEAD. We make sales to anybody who drives up, yes.

Senator MOORE. Then, it is a general business.

Mr. OLMSTEAD. In this sense, gentlemen: The amount of business which the farmers' cooperatives obtain from the person driving through the country, from the person in the city or from the person in the small town, is merely incidental to their other business. They can-

not maintain facilities and refuse to serve any patron who comes to their station, they must serve them. I think it is a part of their public duty to do that. They do not serve the city man because they want his business, they serve him because he comes to the station and wants gasoline or oil, or some other service. The facility is there primarily to serve the farmers' own needs, but they cannot, as a part of their public duty, refuse to serve anyone else. I cannot give you figures on the total volume of that incidental business that is handled by all of the co-ops, we have no record on that, no list has been made on it, but cooperatives are prohibited by law from transacting more than 50 percent of their business with nonmembers.

The CHAIRMAN: By what law?

Mr. OLMSTEAD. They are prohibited by the laws of the States under which they are organized. They are also prohibited by the Capper-Volstead Act from transacting more than 50 percent of their business with nonmembers, if they wish to qualify under that act for any relief.

The CHAIRMAN. So throughout the United States, cooperatives may not do more than 50 percent of their business with nonmembers?

Mr. OLMSTEAD. Yes. The Chair will understand, of course, that we are dealing with farmer cooperatives this morning.

The CHAIRMAN. Yes.

Mr. OLMSTEAD. And that is the case; they cannot do more than 50 percent of their business with nonmembers.

Mr. FRASER. Well, the charge is often heard that cash sales are made to nonmembers but on the books they appear as sales to members. Is there anything to that?

Mr. OLMSTEAD. I would say, gentlemen, that that is a false assumption. I would not say that it never happens, of course, but one-hundredth of 1 percent of the business that is done by farmers' cooperatives ever falls in that category. That is a matter of training of the employees of farmers' cooperatives. It undoubtedly happens, of course, that an employee serving a customer will fail to make a proper record of the transaction other than as a transient sale, or as a sale to one of their own patrons.

Senator MOORE. Then, that provision of the law restricting you to 50 percent of sales to nonmembers is just not effective.

Mr. OLMSTEAD. Oh, yes, it is very effective.

Senator MOORE. Well, if you do not keep any books on it and make no record as to the character of your customers, how do you know it is not more than 50 percent?

Mr. OLMSTEAD. Well, we do, Senator. The point I am making is there might be one-hundredth of 1 percent of the sales that slip through where there is no record, but that is just human frailty.

It should be pointed out also, gentlemen, that there are two types of cooperatives in the farm field: Those which comply with section 101.12 of the United States Internal Revenue Code, and to qualify for exemption under that provision they are required, by the terms of 101.12, to operate wholly on a nonprofit basis. All farm cooperatives, however, do not have to qualify for that exempt status. A farmers' cooperative association may, and many of them do, operate on a combination basis: nonprofit for their own members and on a profit basis for their nonmember patrons. Those cooperatives pay taxes on their nonmember profits in the same manner and to the same extent and at the same rate that any other profit business pays on its profits.

Mr. Fraser. That is, they pay a tax on the portion of their earnings which are not distributed in the form of patronage dividends?

Mr. Olmstead. That is right, Mr. Fraser.

Mr. Fraser. But there is no tax paid in the case of the wholly exempt farmers' marketing cooperatives, or the non-tax-exempt farmers' marketing cooperatives and nonexempt farmers' purchasing cooperatives on the amounts distributed in the form of patronage dividends; isn't that true?

Mr. Olmstead. Not on the amount distributed in the form of patronage, but on the earnings of their member patrons' business.

Mr. Fraser. Yes.

Mr. Olmstead. In other words, they cannot divert the profits on nonmember business to their members as a patronage refund and thereby escape liability to pay a tax on it.

But that portion of their earnings which is a savings on their member business may be refunded to their members as a rebate or discount, or a patronage rebate, or what not, without tax liability.

Senator Moore. On the part of the recipients?

Mr. Olmstead. The recipients, of course, take that into their income, if it is taxable income to them. Production income, for instance, in the case of the farmer, is taxable. It is that portion of his patronage refund which represents a reduction in his cost of farming and becomes a part of his taxable income. That portion which represents a saving on nonproductive or non-income-producing business is not taxable, of course.

The Chairman. Have you any figures on the amount of taxes paid by co-ops under this provision that you have just described?

Mr. Olmstead. I haven't them before me, Mr. Chairman. The joint committee recently issued a report on the 990 form filed by farmers' cooperatives for the year 1944. I do not recall those sufficiently well to give them to you, but they are a matter of public record.

The Chairman. Could you give us some approximate idea of what this tax amounts to?

Mr. Olmstead. I would hesitate to do that. It would be purely a guess on my part.

The Chairman. Well, is it small or comparatively large?

Mr. Olmstead. Oh, the tax is small compared to the total volume of business transacted by the cooperatives. The total nonmember business is small, Mr. Chairman. That is the point I was making to Senator Moore. Practically all of the business done by farmers' cooperatives is done with member patrons, but there is some incidental nonmember business which they do in the ordinary course of the transaction of business.

Farmers' cooperatives have also followed what is known, Mr. Chairman, as the 100 percent cooperative plan, which permits nonmember patrons to become members through the savings originating from their patronage.

The Chairman. Well, your statement to the committee is that the cooperative movement is still a cooperative movement for the benefit of its members?

Mr. Olmstead. Absolutely.

The Chairman. And it is not engaged in any broad-scale competition with normal industry.

Mr. OLMSTEAD. That is right, Mr. Chairman.

Senator MOORE. I am pretty much bewildered about this whole thing, about this cooperative movement. I am not familiar with it. I would like to have the witness state to what extent these co-ops differ. There are two classes of co-ops?

Mr. OLMSTEAD. That is right. The farmer co-ops.

Senator MOORE. The farmer cooperatives?

Mr. OLMSTEAD. Yes.

Senator MOORE. Well, they are all farmer co-ops, aren't they?

Mr. OLMSTEAD. No; there are urban or consumer cooperatives in the United States. The amount of business transacted by them is infinitesimal, of course.

Senator MOORE. Where have the cooperatives purchased refineries and oil-producing facilities in Kansas?

Mr. OLMSTEAD. That is our organization particularly?

Senator MOORE. Yes.

Mr. OLMSTEAD. That is the Consumers Cooperative Association or its subsidiary, the Cooperative Refinery Association.

Senator MOORE. Where are they located? In Kansas City?

Mr. OLMSTEAD. We have three refineries. One at Phillipsburg, Kans., which we constructed along in 1939. That is a 3,500-barrel capacity refinery.

Senator MOORE. When did you acquire that?

Mr. OLMSTEAD. We built it in 1939.

Senator MOORE. You built it?

Mr. OLMSTEAD. Yes. We purchased an independent refinery, the Old Terry Car enter refinery at Scottsbluff, Nebr., a 1,500-barrel capacity refinery, in 1940. We also operate a refinery at Coffeyville, Kans., which we acquired from the National Refining Co. in 1944. We are also interested in the old Globe Refinery at McPherson, Kans. In that instance, our organization and four cooperative wholesalers combined to purchase the Globe Refinery.

Senator MOORE. How much oil production do you own?

Mr. OLMSTEAD. We have in the neighborhood of 400 producing wells.

Mr. FRASER. In Kansas?

Mr. OLMSTEAD. That is in Kansas, Oklahoma, Texas, and Illinois. The major portion of that resulted from our acquisition of the National Refining Co. properties at Coffeyville. We also got their production and pipe-line departments.

Senator MOORE. That does put you, then, in the integrated phase of the oil business.

Mr. OLMSTEAD. We are very definitely an integrated cooperative.

Senator MOORE. Yes.

The CHAIRMAN. What is the market for your crude production?

Mr. OLMSTEAD. Our own refineries.

The CHAIRMAN. What is the market for your refined product?

Mr. OLMSTEAD. Our own patrons, farmer patrons.

The CHAIRMAN. Your own distribution to co-ops?

Mr. OLMSTEAD. Yes.

The CHAIRMAN. What you want to say to the committee is that none of the production from these 400 wells is sold to any other refinery than the co-op refineries?

Mr. OLMSTEAD. No outright sales, Mr. Chairman. You understand, of course, that there are many exchanges negotiated for the purpose of obtaining crude located at the proper point where it can be used.

Senator MOORE. That is the same pattern that the pipe lines operate under.

Mr. OLMSTEAD. We produce at one point an exchange for crude at another point.

The CHAIRMAN. Your purpose is to obtain for your own cooperative refineries the same quantity of oil that you produce from these wells?

Mr. OLMSTEAD. Yes.

The CHAIRMAN. Then, with respect to the production of the refineries, what do you wish the committee to understand with respect to that?

Mr. OLMSTEAD. Our refinery operations are conducted solely for the purpose of supplying our local cooperative associations with the supplies that their farmer members need.

The CHAIRMAN. And these refineries do not sell to distributors other than the co-op distributors?

Mr. OLMSTEAD. We have a great many exchange arrangements with both majors and independents, Mr. Chairman. We also occasionally find ourselves in the position where we have a surplus of one type of product or another which our own patrons cannot absorb, and we have to make sales of that type to both majors and independents.

The CHAIRMAN. But primarily the purpose of producing and refining is to supply the co-op distributors?

Mr. OLMSTEAD. That is the sole purpose, Mr. Chairman. All the other business is purely incidental to that purpose. It is impossible, of course, to maintain an absolute balance, to produce the exact amount of supplies that our patrons need. We can overproduce, and in that instance the surplus we must dispose of in order to continue our operation. But our operations are conducted solely for the purpose of supplying our farmer patrons.

The CHAIRMAN. When you dispose of such surplus, are you then obliged to pay taxes upon the returns from such surplus disposal?

Mr. OLMSTEAD. Oh, yes.

The CHAIRMAN. It not being to your own members?

Mr. OLMSTEAD. We are obliged to, Mr. Chairman, for the reason that we are one of the associations that is qualified for tax exemption under the terms of 101.12 of the Internal Revenue Code. We must treat all patrons alike, whether they are members or nonmembers it makes no difference. The savings realized on their business must be returned to them, and we treat all patrons alike in that respect.

Senator MOORE. How could you make a dividend or whatever you call it, payment to your patrons that are not members of the co-ops?

Mr. OLMSTEAD. It is our legal obligation to do that, Senator. We have to keep the patronage record uniform on all transactions.

Senator MOORE. Do not people just drive through the country and stop at your stations and buy your product?

Mr. OLMSTEAD. They do not in our operations, Senator. We are manufacturers and wholesalers. We do not do any retail business.

Senator MOORE. Are not those retail stations maintained by some branch of the co-ops?

Mr. OLMSTEAD. Not by any branch of our organization. Let me go into that background just a little, to give you a clear picture on this. It is hard to understand.

Senator MOORE. Yes, it is. I tried to understand, but I have not had much success in understanding.

Mr. OLMSTEAD. In the first instance, farmers' cooperatives were organized in this country as marketing cooperatives, and that history goes back almost to the origin of the United States. Farmers have traditionally marketed their products cooperatively. With the advent of power commissions, the mechanization of farms, the necessity of farmers purchasing their supplies rather than producing them, it became necessary, of course, for farmers to reduce their cost of operation, their farming cost, by savings on their farm-supply purchases. As a result of that need the farm cooperative purchasing association came into being some 30 years ago.

Senator MOORE. That is a voluntary organization?

Mr. OLMSTEAD. A voluntary group of farmers pooling their purchasing power is what it amounted to.

Senator MOORE. It was not a legally set-up organization, it was just a voluntary organization?

Mr. OLMSTEAD. Originally, that is true.

Senator MOORE. That is what you mean by 30 years ago?

Mr. OLMSTEAD. That is right. They organize in small groups and made their purchases on a cooperative or pooled basis. With the growth of that business they had to legalize their practice and they organized cooperative purchasing associations for that purpose.

In our instance we have 969 of those local associations which banded together for practical purposes and organized our association to supply them with materials at the wholesale level.

The history of the growth and the development is very interesting. If it will not take too much time of the committee, I would like to go into it just a little bit. As the individual farm cooperative association went into business and became effective it was discriminated aganst by the wholesalers, jobbers, and suppliers, generally. At the instances of competitors in their field they refused to supply them with merchandise. It made it impossible for the local farmers' cooperative association to obtain supplies for its farmers. The manufacturers, suppliers, jobbers, and wholesalers would not supply them. In order to overcome that situation, to cope with that problem, the farmers integrated their cooperative business by organizing their own wholesalers to purchase supplies for them—they massed their purchasing power. With that massed purchasing power the wholesale comperatives were, for a period of time, enabled to obtain supplies for the local associations which owned the wholesaler, which those local associations could not obtain for themselves. It was not very long, however, before the wholesalers found themselves unable to buy from manufacturers. The manufacturers would not supply them, because they did not like them, they did not like that method of doing business. The only answer was for the cooperatives either to go out of business, to face that fact, to give up their goal and their purpose or meet it by integrating, by going back to the source of their supplies, and the farmers' cooperatives in

this country met the issue in that way. In our instance, when we could no longer buy adequate quantities of petroleum products we built a refinery to produce those products.

Senator MOORE. Where did the money come from to do that?

Mr. OLMSTEAD. From the patrons of the association. They came in and raised 50 percent of the capital required to build that first refinery, and we borrowed the other 50 percent.

Senator MOORE. From whom?

Mr. OLMSTEAD. From the Bank for Cooperatives at Wichita.

Senator MOORE. That was after this was set up?

Mr. OLMSTEAD. We did not build this until 1938. We served merely as a jobber or broker in 1939, until we built the first refinery, from 1929 to 1939. We built the first refinery in an independent field, located at Phillipsburg, Kans., where there was no major operation. There were independent producers with no outlet, no market for the crude that they were producing in that field. That is why we selected it. We built the refinery there in that field, and the minute we started building, that oil became very precious to the independents and the majors. Pipe lines were immediately constructed into that field to take the oil, so that by the time we got our refinery built it appeared very likely that we would not be able to get sufficient supplies of crude to operate it. The independent producers who had agreed to supply us with the crude if we built the refinery there came to us and said, "Gentlemen, we cannot do it. We have got to sell our oil to somebody else." The farmers of Kansas raised such a howl over that by appealing to the Governor, the State legislature, and what not, that we got our supply of crude out of that field, a sufficient supply of crude to operate that refinery.

Now, that, gentlemen, is typical of our entire history. We produced only a very small part of our production requirements out of that one refinery. When we found we were going to have additional production to meet the requirements of our patrons we went into Scottsbluff, Nebr., and picked up an independent refinery that had been a price-cutter for years. We bought out the independent refinery and the price war in that territory immediately ceased. Co-ops have never followed a price-cutting practice. We sell at the same market that everybody else sells, and there is no reason why we should not. There is no reason why we should be price cutters. We can sell at the market. At the end of the year whatever savings are reflected go right back to the partons anyway. If we were ever forced to do otherwise we could sell to them at cost in the first instance. I think the cooperative movement as a whole in this country has felt that it is not in the interest of business, not in the interest of public welfare, for the co-ops to undercut anyone. The cooperative movement believes that a better business balance, a better economy can be maintained in this country if the cooperatives will sell to their patrons at standard market prices and then refund to the patrons at the end of the year whatever savings they have rather than give them the savings in the first instance.

Senator MOORE. Just as a corporation does. You call it a refund and they call it a dividend.

Mr. OLMSTEAD. The only difference, and I think this should be emphasized, Senator, is the fact that our patronage refund goes back to the individual who makes the purchase from us, who makes that

saving possible in the first instance. In the ordinary profit corporation the savings on the business transacted with me are refunded to someone else as a return on capital investment. That is the only fundamental difference.

Mr. FRASER. Do not the co-ops, in some instances anyway, sell preferred stock to anybody who wants to buy it?

Mr. OLMSTEAD. Oh, yes; we do.

Mr. FRASER. And the holders of those stock certificates get a regular 4 or 5 percent dividend?

Mr. OLMSTEAD. Surely.

Mr. FRASER. Just like the holders of any corporate preferred stock, is that so?

Mr. OLMSTEAD. Yes; there is nothing unique about corporate financing, as far as cooperatives are concerned. They must be capitalized, they must be financed, capital must be raised somewhere. Our patrons, in the first instance, supply our financial capital, and they then supply additional capital through their savings, but in many instances cooperatives must go into the market and get money. They must either borrow it or they must sell securities with which to raise that money. We follow the usual corporate practice of issuing preferred stock to anyone who wants to buy it as a means of raising capital.

Mr. FRASER. Are not the patronage dividends themselves oftentimes not in the form of cash but in the form of certificates of stock?

Mr. OLMSTEAD. They are, definitely.

Mr. FRASER. And these preferred stock certificates are often not redeemable for years, at the discretion of the directors of the co-ops, is that not so?

Mr. OLMSTEAD. Well, not at the discretion of the directors. Cooperative associations are owned by their farmer patrons.

Senator MOORE. You have a board of directors?

Mr. OLMSTEAD. They are members of the board of directors, of course. They select the board of directors. They are the members back of the board of directors.

Senator MOORE. That is right.

Mr. OLMSTEAD. The farmers, in organizing cooperatives, contribute a part of the initial capital in the form usually of a common-stock investment. If more than a membership investment is required they will usually make an excess investment in the form of preferred stock, or certificate of indebtedness or note or mortgage, or anything of that type. Fundamentally, all of the capital used by cooperatives must eventually come from their patrons, the people who organize them, the people who operate them.

Senator MOORE. You sell certificates of preferred stock to anybody who wants to buy them?

Mr. OLMSTEAD. That is right.

The CHAIRMAN. That is regarded as a debt and not a share in the ownership of the co-op?

Mr. OLMSTEAD. That is right.

Senator MOORE. You do not sell common stock or voting stock?

Mr. OLMSTEAD. Our membership is limited to farmers and farmers' cooperative associations. We are not permitted, under the law under which we operate, to admit to membership in the organization anyone except a producer of agricultural products or an association of such producers.

Mr. Fraser. Does the co-op enter this preferred stock on its books as a debt just as it would a loan from a bank?

Mr. Olmstead. No, Mr. Fraser. I will show you our balance sheet and show you the manner in which that is handled. This is taken from our seventeenth annual report, November 1945. It reflects our position at the end of our fiscal year August 31, 1945. We show outstanding capital shares participating memberships, member equities reserve, reserve for refinery obsolescence, provision for contingencies, deferred patronage refunds, revolving fund payable after current-year and certificates of indebtedness. Capital shares are lumped together in this report, both common and preferred stock, and included under heading "Capital shares." We have not segregated the ownership of capital stock from the ownership of preferred stock for the primary reason that the only individuals interested in our preferred stock are our own patrons. Investors on the market do not purchase our preferred stock.

Senator Moore. The purchasers of your preferred stock are your patrons?

Mr. Olmstead. Primarily. Now, there are a number of instances where individuals interested in the cooperative movement are purchasing our shares. They are not listed on any market, they are not sold by brokers, they are only sold on direct application to us by persons who are interested in purchasing the shares.

Mr. Fraser. If I wanted to buy a share would you sell it to me?

Mr. Olmstead. Yes, indeed, and we have many of those sales. We make no investigation of the purchasers of stock.

The Chairman. And if you sold Mr. Fraser a share, would he have any voting right?

Mr. Olmstead. None at all.

Senator Moore. He would get a preferred stock certificate?

Mr. Olmstead. He would get a preferred stock certificate.

Mr. Fraser. Nonvoting?

Mr. Olmstead. Nonvoting.

Senator Moore. And nonredeemable?

Mr. Olmstead. Well, it is nonredeemable. Preferred shares are callable.

Senator Moore. There is no promise to buy them back like any other preferred stock?

Mr. Olmstead. It would be a misrepresentation to say otherwise. We issue preferred stock with a 5-year maturity date or a 10-year maturity date. Your savings creates a definite legal obligation in accordance with our practice to repay the investment at maturity. There is some question as to whether it is a typical preferred stock for that reason.

Senator Moore. It gets on the same status as a corporation, does it not?

Mr. Olmstead. Except the preferred stock of a corporation is usually issued without any maturity date.

Senator Moore. You cannot make a mortgage?

Mr. Olmstead. Oh, yes; we do.

Senator Moore. That comes ahead of everything else?

Mr. Olmstead. That is right. It is rather interesting that we are given so much credit by the oil industry and business generally for

having an effect upon business. Actually, the farmers' cooperatives engaged in the oil business are peanuts. The total volume of business transacted by them is practically infinitesimal; it does not mean anything.

Senator MOORE. That is true of everybody else when they first start out.

Mr. OLMSTEAD. That is true, surely. I have compiled some figures here on oil production. I think Mr. Hardey made the statement unless something was done to us we were going to take over the oil industry in a very short time, referring to farmers' co-ops generally. There are eight farmers' cooperatives engaged in refining or producing or marketing.

Senator MOORE. Pardon me. Did Mr. Hardey base his statement upon a preferential treatment that co-ops had over individuals and corporations, from the tax standpoint?

Mr. OLMSTEAD. Let me read, if you will, the statement made by Mr. Anderson.

Senator MOORE. Would you answer me this question? Do the co-ops in their business with relation to the whole industry, have any tax advantage over individuals or corporations?

Mr. OLMSTEAD. I think not, sir.

Senator MOORE. Do you say "No"?

Mr. OLMSTEAD. I say "No." I would like to explain that statement, though, because it is an issue that is being viewed publicly now. We are accused of having a tremendous tax advantage by reason of the fact that we, generally speaking, pay no income taxes, and that is an incorrect statement, as I indicated before. Our particular organization does not pay any income taxes. The advantage we have, though, is not derived from the fact that we do not pay taxes; it is derived from the fact that the patrons of our organization are willing to invest their savings in our organization. We operate strictly on a nonprofit basis, so that everything belongs to the patrons. We have no control over their moneys.

Senator MOORE. You do not mean to say you operate on a nonprofit basis?

Mr. OLMSTEAD. We operate on a nonprofit basis in this sense, that every saving we obtain becomes an immediate liability to the patron. We are legally obligated to refund them to him.

Mr. FRASER. It is often done in the form of shares of stock, is it not?

Mr. OLMSTEAD. It is done in whatever form the patrons require. It is their money, and it is for them to determine how it is to be used, how it is to be evidenced. Now, we operate on a peculiar basis that probably should be explained so you will understand it. The associations which organized our cooperative agreed that the savings should be retained by the cooperative until such time as the patrons wanted it out, wanted to take it out of the business in cash. In other words, they agreed that as savings were accumulated, instead of paying the savings out to the patrons in cash they would have them purchase stock or certificates of indebtedness, or return the fund to the association in some other manner. That step could be avoided. The funds could be retained in the association as the funds of the patrons.

Senator MOORE. Those are the reserves that you maintain in the cooperative?

Mr. OLMSTEAD. They are not reserves.

Senator MOORE. They are savings then?

Mr. OLMSTEAD. They are deferred patronage refunds, deferred at the instance of the patrons.

Mr. FRASER. That is really a pyramiding of the capital structure, isn't it?

Senator MOORE. That is an increase in the capital by way of reserves or savings or whatever you want to call it.

Mr. OLMSTEAD. That is right.

Senator MOORE. Like cash in the bank.

Mr. OLMSTEAD. That is right.

Senator MOORE. The co-ops, or the patrons as you call them, can demand a payment to themselves, just as stockholders in a corporation can?

Mr. OLMSTEAD. No, no; they can come in and vote out the patronage refunds anytime that they want to.

Senator MOORE. That is what I mean. Maybe you stated your understanding, but they can require the directors to declare a dividend or a payment to the patrons, can they not?

Mr. OLMSTEAD. Yes; it should be understood though, that those are not dividends, they are already set up as a direct interest to the individual.

Senator MOORE. Well, call them refunds. It is not refunds strictly speaking, it is earnings, isn't it?

Mr. OLMSTEAD. It is savings which belong to the patrons on the patronage basis, which they permit the association to retain until such time as they want it.

Senator MOORE. All right. The thing I am getting at now is this: Corporations have to pay taxes on their surplus.

Mr. OLMSTEAD. That is right.

Senator MOORE. Do co-ops?

Mr. OLMSTEAD. No, no.

Senator MOORE. That is the question.

Mr. OLMSTEAD. The wholly exempt co-op does not. There are co-ops that do, of course.

Senator MOORE. There is that advantage then between operating as a co-op over operating as a corporation or individual, is there not?

Mr. OLMSTEAD. That so-called advantage we feel comes not from tax exemption but from the willingness of the patrons to invest their tax-paid funds back in the association. This money does not escape taxation: that should be understood. The patron of a cooperative is required to pay tax on that savings in the cooperative as it is set up on the books as a liability to them.

Mr. FRASER. Just as an ordinary recipient of a dividend from a corporation pays taxes on his dividends.

Mr. OLMSTEAD. That is right.

Senator MOORE. Would not there be a decided difference if you divided this surplus up and let each individual pay an immediate income tax, and it is a tax at the source?

Mr. OLMSTEAD. Yes; very definitely.

Senator MOORE. You are not taxed at the source?

Mr. OLMSTEAD. We are not taxed at the source; that is right.

The CHAIRMAN. You have been describing the operations of your own co-op?

Mr. OLMSTEAD. Yes.

The CHAIRMAN. Do you have any knowledge of any other cooperatives which are integrated oil operations? You have producing and refining properties. Do you know of any other farmers' cooperatives which are likewise organized in the industry?

Mr. OLMSTEAD. Yes, Mr. Chairman. I know of all of the farmers' cooperative associations which are organized similar to ours, but as to detailed facts in connection with them, I could not give that to you.

The CHAIRMAN. You understand what I am trying to get at. Your organization is an integrated oil operator.

Mr. OLMSTEAD. Yes.

The CHAIRMAN. Producing, refining, and distributing.

Mr. OLMSTEAD. Yes.

The CHAIRMAN. Do you know of any other cooperatives just like yours?

Mr. OLMSTEAD. Yes.

The CHAIRMAN. How many of them are there?

Mr. OLMSTEAD. There are eight cooperative associations operating in a somewhat similar manner.

The CHAIRMAN. Including your own?

Mr. OLMSTEAD. Integrated organizations, yes.

The CHAIRMAN. How many producing wells do these eight co-ops have and how many refineries?

Mr. OLMSTEAD. I would hesitate to give you that information. They are operating 11 refineries. Our own producing wells are around 400, and I think we probably have two-thirds of all of the cooperative wells.

The CHAIRMAN. Then, will you say these co-ops do not have more than 800 producing wells at the outside?

Mr. OLMSTEAD. I think that would be safe.

The CHAIRMAN. Have you any idea what the total crude production is or what the total production of the 11 refineries is?

Mr. OLMSTEAD. I can give you the figures on their total production. In 1935 they produced 1,635,314 barrels. In the same year they purchased from independents 10,939,415 barrels.

The CHAIRMAN. How much is that?

Mr. OLMSTEAD. 10,939,415. They purchased from majors in that year 8,901,835 barrels.

The CHAIRMAN. They were a very substantial market for the output of independent and major refineries?

Mr. OLMSTEAD. Oh, yes; very definitely. Co-ops are still dependent upon both independents and majors for their source of crude.

Senator MOORE. You expand your operations from time to time and you contemplate doing that, of course?

Mr. OLMSTEAD. We have gone through an expansion period, Senator, to meet our own patronage requirements.

Senator MOORE. Well, you can expand as you see fit. If you want to buy a refinery in Kansas today you can get the money to buy it with, as a sound investment?

Mr. OLMSTEAD. As a sound investment, if we have sufficient equity back out of it, of course, we can borrow funds.

Senator MOORE. Whom do you borrow from?

Mr. OLMSTEAD. We borrow from the bank for cooperatives at Wichita practically all the money for the farm cooperatives.

Senator MOORE. What is the source of the capital for that bank?

Mr. OLMSTEAD. Originally, the 13 banks for cooperatives were financed out of the old revolving fund of the Federal Fire and Loan Board.

Senator MOORE. That is a Government corporation, isn't it?

Mr. OLMSTEAD. That is a private corporation. That was through Farm Credit. The corporations were established in the first instance by the Government through the capitalization of them. The borrowers from all of the farm credit units pay 5 percent of the amount of their borrowings, their loans as a capital investment, so that in the course of time all farm credit units will become farm-owned financial institutions. The Government funds are retired as rapidly as the earnings of the bank will permit.

The CHAIRMAN. Like the Production Credit Association.

Mr. OLMSTEAD. Yes. It is one of the farm credit units.

The CHAIRMAN. You have been describing your operations particularly with respect to taxes. There has been running through my mind the current movement to do away with what is called double taxation of corporations.

Mr. OLMSTEAD. That is right.

The CHAIRMAN. The purpose of that is to exempt all corporations from taxes upon their incomes so that the tax burden will be borne by the shareholders. That is rather an imitation of the plan that the co-ops have set up.

Mr. OLMSTEAD. Yes, very definitely.

The CHAIRMAN. Then, you have the advantage of not having double taxation.

Mr. OLMSTEAD. Yes, indeed.

The CHAIRMAN. All right. Are there any other questions?

Mr. OLMSTEAD. Incidentally, Mr. Chairman, let me give you the figures on our total production of crude in 1945, and that is all co-ops. That figure was 1,645,314, and it is less than 0.1 of 1 percent of United States domestic production in 1945.

The CHAIRMAN. The total production?

Mr. OLMSTEAD. The total production was 1,711,940,000, of which our share was less than 0.1 of 1 percent.

Mr. FRASER. Are the co-ops getting into the field of oil moving in foreign trade?

Mr. OLMSTEAD. Well, not actually. In theory, yes. There has been no definite move in that direction, but I think we feel in our organization that the integration of our business is vitally necessary to its preservation. If the majors and independents move into foreign production as a source of supply of crude oil, if the co-ops are going to exist they, too, must move into the same field, otherwise they will find themselves in a squeeze some day where lower priced foreign oil comes in here available for everybody else but the co-ops. The situation Mr. Callis referred to yesterday could easily happen to co-ops, of course, and for that reason we feel we use the same business judgment that other independents and majors use in their operations and protect ourselves in every way. If the production of foreign crude is necessary to do that, I think we would certainly move in that direction.

The CHAIRMAN. Now, does that complete your statement, Mr. Olmstead? I am really trying to hurry you.

Mr. OLMSTEAD. I realize you are. I had wanted to read to the committee a statement recently made by the Secretary of Agriculture, Mr. Anderson.

The CHAIRMAN. Is it very long? These statements are available to us, of course.

Mr. OLMSTEAD. I will read excerpts from it.

The CHAIRMAN. You may put the whole statement in the record.

(The statement referred to is as follows:)

TALK BY SECRETARY OF AGRICULTURE CLINTON P. ANDERSON BEFORE THE ANNUAL MEETING OF THE NATIONAL COUNCIL OF FARMER COOPERATIVES, CHICAGO, ILL., JANUARY 9, 1946

COOPERATIVES AND THE FAMILY FARM

This opportunity to meet with the National Council of Farmer Cooperatives, representing associations with 2,300,000 members in 48 States, is one that I appreciate deeply. I have a warm spot in my heart for cooperatives. I have worked with them personally, both in business and in agriculture. As Secretary of Agriculture, I am keenly aware of and grateful for the whole-hearted support and assistance given by farmers' cooperatives to the Department of Agriculture in its research production, and marketing programs.

My talk today is not going to be entirely about cooperatives, as such. There is little new that I could tell this group about the mechanics of cooperation that it doesn't already know. In fact I doubt if there is another group in the country with more collective experience in organizing, operating, and directing cooperatives. So I'm not going to presume to tell you how to run your business. No—I'm going to talk about business in general—about free enterprise, the family farm, and some of the great changes that have come in America's way of work and way of life which are bound to affect all of us.

We've all had our noses so close to the grindstone these past years—first, while fighting off a depression and later while fighting off would-be world conquerors—that there has been little opportunity for serious reflection as to just where we are heading, businesswise, in the United States. Astounding new developments have piled one on top of another, materially changing our methods of farming, our ways of doing business, and our manner of living. Yet we haven't been astounded—we haven't had time to be. We accepted new things, began using them without thinking about their economic or social implications, and went on about our urgent tasks. Meanwhile, the whole face of agriculture and industry has been transformed.

And now—when at last we have time to look up from our furrows and reappraise the modern scene—it may come as a surprise and even a shock to many of us to realize just where some of our developments seem to be taking us and just how immense and concentrated our powers of production have become.

There have been remarkable gains in productivity all along the line in farming and manufacturing and marketing—a given amount of man-work now produces more than ever before. On our farms and in our great industrial plants we have more machinery and power, and more workers skilled in operating those machines, more technological know-how than all the other nations of the world combined.

We have moved into an economy of "bigness," sheer economic giantism. By means of power, machines, modern mass-production and mass-sales methods, plus great accumulations of capital, massive corporations have come to control or command huge shares of our natural resources, our manufacturing capacity, and our distribution system. This concentration of economic power has moved steadily ahead during this century. It was estimated in 1930 that some 200 corporations controlled half of the industrial wealth of the United States. In 1929 the top 12 percent of the manufacturing enterprises in the country employed nearly half of the wage earners and turned out fully half of our manufactures. The war has accentuated, if anything, the upsweep of the curve toward bigness and concentration. By 1942 the 200 largest manufacturing corporations controlled 44 percent of the total assets of all manufacturing corporations and 58 percent of the net capital assets of such corporations.

But with all of our mass-production capacity, industry had greater difficulty than agriculture in organizing for war. When war production was needed in a hurry and in vast amounts, the titans among our industrial enterprises could

contract for huge blocks of war machines. But we can remember the difficulties with which the contracts were broken down or subcontracted so that the productive capacities of the many thousands of small independent plants could be utilized in the war effort.

Agriculture, in contrast, with 6,000,000 farms, predominantly of the average-sized family type, was quickly geared, almost to the last acre, to the war production schedules of food and fiber. And so, we saw again that there are disadvantages as well as advantages in sheer bigness.

Now I have nothing against big business organizations just because they are big. It takes great size to produce the remarkable output at low cost achieved by the assembly-line system which is one of the outstanding features of the United States industrial plant. Production efficiency has given us in this country a standard of living unequaled in the world, and quite impossible in a handicraft economy. But at the same time huge size does carry with it some inherent dangers as the dinosaurs of a bygone age found out.

Agriculture, too, has moved in the period of bigness—it has become in the past generation a high-powered, mechanized business. But farmers have been fortunate in being able to command the efficiencies and the increased production potentials of a power system without sacrificing the traditional American pattern of individually owned, family-type farms. Yet the record of increase in productivity per worker has moved right along with that in industry—in fact, at times has gone ahead of industry. The record of the family farm in the war effort is fully as good as that of business and industry. Where industry was able to expand its plant by building new factories and creating new machines and hiring new workers, agriculture's land base is permanently fixed. Farmers had to increase production for war—despite the loss of 5,000,000 people—by working harder and longer, by introducing new efficiencies, and making better use of acres, animals, and equipment.

However, we would be dodging one of the most vital issues of the times if we did not acknowledge that the same forces which brought great size and concentration of economic power in our industries are also bearing heavily on agriculture. Farms are becoming more and more mechanized. They require much more initial capital and cash working capital than ever before. They require higher skill in operation and management. Marketing is far more complex than it was only a generation ago. A man can till more acres, harvest more bushels, care for more livestock than he could only a few years ago. Because of this, the long-range trend is toward fewer and larger farms.

Individual ownership has remained an outstanding feature of agriculture—and we fervently hope that it always remains—yet there have been periods in the past and there will be times in the future, when corporate ownership and operation could easily extend itself widely in agriculture. That is one of the possibilities accompanying the trend toward bigness that must be taken into account, and, I feel, carefully guarded against.

The major point I wish to make here is that the farmer and the other small businessmen of today must operate in a world of economic giants, yet they must retain their identity and their flexibility as individual enterprisers. They can do that only by becoming just as efficient as the large operators. They must recognize that they face direct and indirect competition with multimillion dollar organizations that are constantly extending, constantly on the alert for new processes or new short-cuts that will yield competitive advantage. I believe there is little doubt that except for the power of the American farm tradition, the growth of cooperation, and the definite, deep-rooted Federal and State policy of encouraging the family-type farm as something of fundamental national strength, the big corporations might have taken over as much of agriculture as they have of other parts of our economy. It has happened all around us; it has been a part of our industrial and business growth; but I am positive that it is not what agriculture wants. We can, I believe, find other ways of producing the same results—we have done it and we are going to continue to do it.

Farmers have developed and used many economic and social implements to maintain the family-type farm. Listing them and going into the value of such things as the strong research system of agriculture, the progressive educational program carried out by the Federal-State extension system, the organization of farmers for planned, balanced production under the national farm programs, the soil-conservation programs, and all the others would require the rest of my time. I want to emphasize the economic device that we are considering here—cooperation and cooperative organizations. These have been the constructive means by which both farmers and small businessmen have maintained themselves,

achieved efficiency in buying and selling, and sought to gain the advantages of bigness without the disadvantages.

The very nature of farming in America from the time of the first settlers has given cooperation a tangible, extremely high value among farmers. As pioneer families pushed westward across the United States they faced great personal dangers and natural hazards that the individual alone was powerless against. Through cooperation they found a source of strength that enabled them to bring the raw new land under the plow, to build homes, churches and schools in the face of the peril of Indian wars, storms, drought, and lack of all but the most elementary facilities for civilization. Their constant dangers and a deeply jealous regard for individual freedom and enterprise led our pioneers to work together for their common good without sacrificing individual rights; it led to a strong spirit of good neighborliness that still marks the rural areas as distinct from the impersonal nature of life in our huge cities. Many of our most pleasant rural customs are evidence of the farmers' willingness to work with his neighbors—such things as "trade-work," husking bees, threshing rings, barn-raisings, and the like are the outward signs of the informal cooperation that is an integral part of the spirit of American agriculture. It is a precious spirit that we cannot afford to lose, no matter how modern and mechanized our farms may become.

The highly developed formal cooperatives in agriculture today are a direct outgrowth of that pioneer spirit of neighborliness, and that is important to remember, because however scientific and businesslike we may become in managing our cooperatives, that fact remains that the binding that holds them together, the essential force that makes them go, is nothing more nor less than an extension of this spirit into present-day conditions. Without that human force, a cooperative is in real danger of becoming just another business, abstract in its aims, and divorced from the lives of its members and customers.

Formal cooperatives, as recognized legal institutions, came into both business and agriculture very early in the history of the United States. They came as a device by which individual businessmen or farmers could join for purposes beyond the ability of the individual—to transfer the risks of the individual to the group, to market products beyond the scope of the individual, or to bring group buying power into the market under skilled direction. It is significant that Benjamin Franklin was one of the sponsors of perhaps the first cooperative well-known as the "Hand-in-Hand"—the Philadelphia Contributorship for Insurance of Houses From Loss by Fire, a mutual that was organized in 1752, and has grown and prospered ever since.

From those beginnings, cooperatives have come today to play an integral part in the life of the farmer—and of the businessman. It is estimated that fully half the farmers in the United States are members of cooperative associations that are performing some vital service in purchasing farm supplies, processing or distributing farm products, or providing other essential farm-business services. Today, more than ever before, there are many services that the individual farmer cannot provide for himself—he must, if his efforts are to be effective, join with his neighbors in large group endeavors. And today, to that farmer the term "neighbors" has a much broader meaning; it takes in farmers like himself over the entire Nation. You don't have to look very far around modern agriculture to see how helpless the individual would be in dealing with many of his problems if he had no opportunity for joining his strength with that of his fellow farmers.

This group is acquainted with the many lines of farm cooperative endeavor and their relative importance, but I want to summarize them briefly to give definite focus to the size and extent of farm cooperatives today:

Some 7,500 farmer associations are engaged primarily in marketing farm products. They report 2,750,000 members.

Two thousand mutual insurance companies serve almost half of our farmers with protection from losses from wind, hail, fire.

Twenty-seven hundred associations, with 1,500,000 farmer members, are engaged in purchasing farm supplies. Their volume of business runs over a billion dollars a year.

Four thousand mutual irrigation companies serve about 150,000 farms.

Eight hundred rural electric cooperatives provide service for more than a million farms.

Fourteen hundred livestock improvement associations carry on programs to improve the productivity and quality of the products of our beef cattle, dairy cows, swine, poultry, and other farm animals.

One thousand seven hundred national farm loan associations are providing farm-mortgage loans on a cooperative basis to 390,000 members. Five hundred and thirteen production credit associations are providing 370,000 members with short-term seasonal credit.

In addition, there are many thousands of small cooperatives, some officially organized as legal entities, and others operating simply by verbal agreements between farmers in a community, which provide such services as machinery pools, bull clubs, trucking routes, farm machinery repair centers, and so on.

Diversified cooperative activity is by no means confined to agriculture alone. Business, too, has developed many forms of cooperation and many specific cooperatives which operate almost exactly like farmers' cooperatives and which are taken for granted. There has been a strong trend running in small business to meet the competition of big business by combining into cooperative organizations; thus obtaining the advantages of massed buying power and mass-sales methods while retaining individual ownership. Thousands of independent retailers, wholesalers, manufacturers, and service firms have formed purchasing, marketing, advertising, or credit cooperatives. It is interesting to note, in passing, that these cooperatives, returning their savings to the individual enterpriser and to his customers, have no income of their own, and hence are free of income taxes, although they are subject to other taxes common to most types of business.

You can see these business cooperatives all around you. Independent grocers, competing with the large chains, have their cooperative retail grocery chains which operate warehouses and represent their members in spending their pooled purchasing power, obtaining carlot rates, and merchandise of high quality, beyond the ability of the individual retailer. There are many so-called mutual drug stores, which are owned by cooperating independent druggists who have formed organizations to operate warehouses and to exercise definite standards of buying. We don't ordinarily think of it as such, but one of the most extensive of our news-gathering agencies, the Associated Press, is nothing more or less than a cooperative of newspapers bringing to its members news that no individual publication could gather by its own efforts.

There is no doubt about it, the cooperative technique is a part of the American way of life. It is as much a part of agriculture as is the family-type farm, and the two are dependent on each other. But the implications go even deeper than that. Cooperation is a two-way street. To be successful, and to live up to the responsibilities of free enterprise in our democratic system, the cooperative must genuinely serve both its members and the public. Farmers are justified in using the cooperative device, and the legal privileges that have been accorded it, only when it offers a sound means to solve an economic problem for the benefit of the cooperators and the public. Neither farmers, nor anyone else, have the undisputed privilege of combining their interests to seek monopoly or unfair advantage.

And there is no doubt that farm cooperation as a whole has served the public welfare and that with very few exceptions farm cooperatives have kept closely to the basic principle of service to their members and to the public. In a true sense, cooperatives have provided a valuable yardstick. As you well know, cooperatives have been pace setters in improving the quality of farm products supplied the public—and they have done it by seeking higher and higher standards, better methods of marketing, and seeking to return to the producer who produces high quality the reward that such quality brings in the market. Farmers' cooperatives have been in the forefront in experimenting with and encouraging better grading, packing, and other means of assuring the housewife that she is getting her money's worth when she buys groceries. In the purchasing field, cooperatives have led the way toward known standard, efficient products for the farmer at the lowest possible cost, and in many cases the methods they have developed have spread, like ripples from a stone thrown in a pool, throughout our merchandising system. Such things as open formula feeds—where the buyer knows exactly what he is buying—high analysis fertilizer and seeds of known origin and germination have been pioneered by cooperatives. Cooperatives have fought without let-up to eliminate marketing abuses, to break down monopoly, and to implement the public's right to know what it is buying. Cooperative organizations have sought to spread useful information; they have worked closely with the research staffs of the land-grant colleges and the United States Department of Agriculture to bring to their patrons and members the benefits of the latest scientific discoveries and the most up-to-date specifications. And, finally, farm cooperatives can look back with honest pride on the service they gave to farmers and to the public during the war, when they played an important part

in processing and marketing the capacity production of our farms, and in finding and distributing fertilizer, feed, fuel, machinery, and other supplies so essential for continued high production. That was service, not just to their members, but to the United States in time of war.

At present we are definitely in a transition period. We are relaxing from our war jobs, and we have a breathing spell, probably a short one, before we must face the problems and the economic and technical developments that lie ahead. It is imperative, I believe, that farmers use this breathing spell to clear their sights and determine their target in the future.

There is little doubt as to the objective toward which we want to aim. We want to aim for maintenance and improvement of the family farm. We want it to be a fully productive, highly efficient farm—but we want it to be the traditional family type, capable of holding its own in our economy, capable of maintaining farm and home as a way of life. We want it to fit into a national pattern of a fully productive agriculture, turning out vast amounts of high-quality food and fiber, capable of supplying the Nation with a bountiful diet at a reasonable cost. We definitely don't want our farms to become soulless factories, owned by impersonal stockholders and operated by hired managers and hired workers, with success or failure measured entirely by dollars-and-cents figures in company ledgers. To allow our machines and our impetus toward bigness to bring that about would be to take the American spirit out of farming; it would mean relinquishing the solid values of farm life that we have prized highly since the first settlers put the plow to the fresh soil of this continent.

The farm cooperatives must play an increasingly important part in farm life and farm business, if we are to maintain and improve the family farm, if we are to adapt it to the high-powered economy into which we are speeding. I think it is absolutely essential that we give serious thought to the possibilities of the future in agriculture and determine the ways in which cooperatives can increase their aid to farmers in achieving the kind of agriculture we will need, and can aid the public even more in realizing to the full the benefits of our productive agriculture.

It seems to me that one of our first jobs is to gain greater public understanding of what farm cooperatives are and how they serve the Nation's welfare. I realize that a great deal has been done in education of farmers in cooperation, and that a great deal of information is available about the principles, methods, and aims of cooperation—for farmers. But frankly, I think we have been talking to ourselves too much, and to the public too little. Furthermore, we have been talking in a special jargon that tends to make the idea of cooperation too complex.

As a result, I think the public is somewhat confused about cooperatives. I believe that our language has caused means to be confused with ends, methods with purposes, implements with principles.

When I think of farm cooperatives, I think of them not as complex business concerns, but as groups of independent farmers banded together to do some job that is too big for them as individuals. They are not seeking profits as a group, but are seeking to use modern business methods to maintain their way of life. That is their aim, their purpose. The methods by which they seek to maintain their way of life may vary according to the economic problem they are attempting to solve by cooperation. If credit is their problem their cooperation may take the form of a marketing association. If buying supplies of known quality at prices they can afford to pay is a problem, their cooperation may take the form of a purchasing cooperative, giving farmers the same advantages that big business enterprises have in skilled, large-scale buying.

Thus, when you strip cooperation to its fundamental elements, the story is a simple one, easily understood. It reveals at once the reason for the legal right of cooperatives, and their legal obligations. It leaves no doubt as to the place of the cooperative in the system of free enterprise—in fact, it demonstrates that cooperatives are the very essence of free enterprise in that they actually represent groups of farmers acting together for the purpose of carrying on their individual free enterprises more efficiently for individual profit. Nothing could be more American in its basic spirit and purpose than that.

It is this basic objective of farm cooperatives that has caused Congress and the courts to recognize generally, and in specific legislation, and to affirm repeatedly, the right of farmers to organize cooperatives, and the public welfare obligations of cooperatives. Shorn of all technicalities, it is this basic purpose that frees cooperatives from income taxes, if they return to members and patrons the savings they may be able to make in the transaction of business for their

members and patrons. Obviously, such returns are a part of the income of the individual enterpriser—the farmer—and as such are subject to taxes as a part of his income. Outstanding and simple as that fact is, it has often been overlooked. It should be made clear that the farmer in this respect is in exactly the same position as the independent businessman or partner; he pays taxes on his income, including any savings he receives through cooperative action.

Also, it should be made entirely clear that cooperatives are not entirely free from taxation—that while they may not pay income taxes they do pay their share of real estate, social security, and other taxes, just as do most businesses which are operated for profit.

I believe, too, that we in agriculture need to do a more aggressive job of informing the public of the many improvements and benefits that have come to consumers through the farmers' cooperatives. That also is a simple story in its essentials—better food, brought to the American family at the lowest possible cost. It is a dramatic story of new and better products for the American dinner table—of new processes, quicker handling, fresher food, reduced costs and margins. It is a part of the story of better nutrition and health for our families.

If anyone believes that the days of pioneering in cooperation are past, let him study some of the problems facing agriculture and the family farm. The frontier of ideas is always wide open, and we certainly are going to need ideas, plus the courage to give them a fair trial. We should not forget that agriculture has been in a sellers' market for the past several years, with the government taking great chunks of our output for the armed services. Certainly, finding new markets and enlarging the old ones is going to take all of our selling skill. And I, for one, have long believed that agriculture has not done the job of promoting its products, of creating new tastes and larger demands, as well as it could be done. Efficiency and lowest possible cost in producing, processing, and distributing farm products are going to loom more important than in the past, and may rapidly become the deciding factor between a thriving co-op and a defunct one when the going gets tough. Here alone is need for practically every cooperative to reexamine its operations with a most critical eye.

Modernization of facilities is going to be a problem for many organizations that have creaked by with obsolete equipment and old-fashioned methods during the war. And among the greatest of challenges is the need for many new types of cooperative service to keep the farmer up with the times and to aid him in maintaining his independent position. I won't attempt to guess what all these may be, but increased mechanization, increased use of refrigeration on farms and all along the way to market, development of many new methods of packaging, new forms of transportation, among other things, promise us a most exciting decade ahead.

Most of all, I hope that the many men who guide the destinies of our cooperative enterprises keep firmly in mind not only the great opportunities they have for service, but also the basic purpose of this form of organization, to enable farmers to work together to maintain and improve the family farm. Cooperatives, too, can suffer the curse of bigness—they can become so huge and complex that unless real effort is made they lose contact with the lives of their farmer members and their patrons. We don't want that to happen. We want cooperatives to remain human institutions, accurately reflecting the desires and interests of the individuals who make up their membership. If we keep cooperatives interwoven into the lives of farmers and their customers from the grass-roots to the city dinner tables, if we keep before us the realization that in the last analysis the only thing a cooperative has of its own is the service it provides its members and customers, then we need have little worry about the future of farmers' cooperatives.

Mr. Olmstead. We appreciate the opportunity you have extended to us to appear in this hearing. While we feel that this is really not an issue before the committee, we did want to answer the charges that have been made against us. I think in all sincerity, in all earnestness, the oil industry is not confronted with any problem as far as farm cooperatives are concerned, that we can live side by side with independents and majors, to their benefit and to ours.

Our business, which takes back to the grass roots increased savings and increased purchasing power, is indirectly a benefit to both majors

and independents. While we do, undoubtedly, in our operations, hurt a limited number of marketers, that is the extent of the damage we do to the oil industry.

The benefits that we derive, that the American public derives, from that minor amount of damage, so greatly outweighs the damage we do that there can be no question but what the farm cooperative must be continued, must be strengthened, must be made a part of our permanent economy.

The CHAIRMAN. Thank you, Mr. Olmstead.

STATEMENT OF ALFRED A. KILTZ, INDIANA FARM BUREAU COOPERATIVE ASSOCIATION, INC.

Mr. KILTZ. My name is Alfred A. Kiltz; Indiana Farm Bureau Cooperative Association, Inc., counsel for the petroleum division and manager of the exploration division.

The CHAIRMAN. You may proceed.

Mr. KILTZ. Indiana Farm Bureau Cooperative Association, Inc., obtains its crude oil supply from Indiana, Illinois, and Kentucky, known as the Illinois Basin. We have a refinery located at Mount Vernon, Ind., on the Ohio River, which has a capacity of 3,500 barrels per day. We are also engaged in producing crude oil, and produce about 2,000 barrels per day. The balance of the crude oil which we use is purchased from major oil companies and from independent producers. We do not have any filling stations. All of our products are consumed upon the farm, and distributed to farmers by means of tank wagons. There are certain byproducts which are manufactured, gasoline and kerosene, and a limited amount of fuel oil, that naturally come out of the process of refining. We do sell to others.

May I comment upon the statement of Mr. Hardey?

The CHAIRMAN. Certainly.

Mr. KILTZ. As I understand it, Mr. Hardey, president of the Independent Petroleum Association, made the statement that the cooperatives engaged in the petroleum business were forcing the independents out of business. I will say to the committee that the Indiana Farm Bureau Cooperative Association, Inc., during the past 3 years, has contributed, by means of bottom-hole letters—and those are letters given to an independent when he has a block of acreage which he wants to drill and does not have the finances to drill it; he will come to us and offer to sell us 80 acres in the block of 160, or whatever it may be, and we agree on a price which he is to receive when the well is completed down to the specified depth. That is what is called the bottom-hole letter.

We have given to independents in the last 3 years $312,000 contribution toward assisting them in drilling their oil wells.

In addition, during the last 18 months we have loaned to independents who are drilling wells and producing wells, $349,497.

I might further say that there has never been a foreclosure against an independent.

Also we have loaned to independent operators, from our stock yards, thousands of feet of oil-well casing, rods and tubing, also tanks, pump jacks, and other equipment.

Our refinery was built in 1939, and that refinery, running at capacity, does not supply the farmers of Indiana, whom we serve, with one-half of the refined production which they want to purchase from us. Therefore, the balance of the gasoline and coal oils that they use are purchased from major companies.

In 1940, and prior to 1940, there was opened in Indiana and Illinois what was known as the Griffin oil pool. This pool was opened and developed primarily by independents. There were two major company pipe lines through Illinois, one of them being a British-American company, and the price of crude oil in that field—it was selling at 90 cents per barrel; 10 cents, at least, under the posted price of crude oil for the Illinois Basin as a whole, the established pipe-line prices. It ranged from 10 to 27 cents under the pipe-line prices.

We ran an 8-inch pipe line from our refinery in Mount Vernon, Ind., into the Griffin pool, a distance of approximately 25 miles, and immediately the posted price was $1.17 a barrel, which was the price of the Illinois Basin for pipe-line oil of like grade and quality, and thereby we gave the independents the full pipe-line price for the crude oil which they were running, as far as the farmer royalty owners.

We do have, through the oil which we are purchasing from the major companies, from the independents, and that which we produce ourselves, a surplus over what the refinery at Mount Vernon can refine, and that oil is shipped up the river to Carbide Carbon & Chemical Co. of Charleston, W. Va., an independent refinery, and we have shipped such oil to them at the rate of 1,000 barrels per day for the past year, and they give us back the gasoline and kerosene from that oil which they refine. The balance of the product belongs to them; I mean, they dispose of it through other means, but they give us back the gasoline and kerosene.

The CHAIRMAN. You mean the contract is such that their compensation is derived from taking these other products while you get the gasoline, without any additional payment?

Mr. KILTZ. The payment, we will say, will be considered along with the price of the crude, the value of the crude which we deliver to them.

Senator MOORE. You mean you buy the gasoline back?

Mr. KILTZ. In effect, that is what it is; yes.

Unless the committee desires to question me about our stock and the manner of operation of the cooperative, I will conclude what I had to say to the committee with the statement that, in our operations in the Illinois Basin, we have the most friendly cooperation with the major companies. We have the most friendly cooperation with all independents engaged in the petroleum business and in the production business. I think they consider us their friends and a haven of refuge, perhaps, for relief when they cannot get it elsewhere at times.

Senator MOORE. That is a very great benefactor.

The CHAIRMAN. Are there any questions? If not, thank you very much, Mr. Kiltz.

Mr. FRASER. I would like to introduce in the record at this point a statement left with me last night by Mr. John Carson, who is the director of the Washington office of the Cooperative League USA, and National Cooperatives, Inc. Mr. Carson said that he had to leave town, and would like his statement put in at this point.

The CHAIRMAN. The statement may be received.

STATEMENT OF JOHN CARSON, DIRECTOR, WASHINGTON OFFICE OF THE COOPERATIVE LEAGUE USA, AND NATIONAL COOPERATIVES, INC., WASHINGTON

Mr. CARSON. My name is John Carson. I am the director of the Washington office of the Cooperative League USA, and of National Cooperatives, Inc. Our Washington office is at 726 Jackson Place NW.; our New York office is at 167 West Twelfth Street; and our Chicago office is at 343 South Dearborn Street.

The Cooperative League USA is the educational arm of the consumer purchasing cooperative movement in this country. National Cooperatives, Inc., is the business service arm of the consumer-purchasing cooperative movement. The National Cooperative Finance Association is the financial arm which has been organized only recently, but which will mobilize the credit resources of our organizations and provide such credit facilities as our organizations may need.

I am representing here the Midland Cooperative Wholesale, specifically.

It is difficult, even impossible, to make an estimate of the number of member-owners of consumer cooperatives with any assurance of accuracy. There are duplications in the membership. Also, any estimate I would give you here would have to be modified tomorrow when 100 or 200 more families will be added to the number in all probability. We believe it is entirely fair to say there are at least 2,500,000 families which are now member-owners of consumer-purchasing cooperatives, and hence that as many as 10,000,000 of our people are now demonstrating their ability to help themselves and to not be dependent on those who heretofore served them at a profit. I shall place in the record the names of the associations which are affiliated with the league and with National Cooperatives. (See appendix A attached hereto.) These associations are the great regional organizations which are owned, in turn, by some 5,000 local or retail associations, and which are owned, in turn, by some 10,000,000 of our people.

Mr. Chairman, we had not intended to ask this committee for an opportunity to appear at this time. But if the committee desires to have a very complete story about these regional cooperative organizations and the part they are playing in stabilizing the oil industry and in saving democracy—a story which I think will be proved to be as important as any story told to this committee—we will prepare to do that task. It will require a little time for preparation as our regional managers are very busy men, men who are striving to keep up with the development of this movement.

But when Mr. B. A. Hardey, the president of the Independent Petroleum Association of America, appeared here as a witness and assailed our cooperative associations, I felt that we should appear. I thought this committee might have enjoyed Mr. Hardey's hysterical attack on cooperatives—it was worth any reasonable charge for admission to the show—but when questions by members of the committee seemed to indicate interest in what he said, it seemed to me that we owed it to the committee to present a brief story, even though it had to be prepared hurriedly.

We bear Mr. Hardey no ill will. And certainly we are the friends and the supporters of any bona fide independent producer of oil, because we provide for them a buyer of their products; a buyer who operates with glass pockets; a buyer, of which they can also become member-owners and participate in the work of the family, as one of the members of the family. If there is any bona fide independent producer of oil who has a specific complaint against the cooperatives, I would like to have it presented here because I think that will give us an opportunity to reveal to him the truth, and inevitably induce him to become a part of our family.

Mr. Hardey said, "You know when you start a growth like a cooperative movement, it bursts out in different places all over the country." And he added that "Something must be done about it."

The cooperative movement is bursting out all over the country. Just last night, two students for the ministry who will be ordained shortly and who are giving all of their spare time to a group of very underprivileged boys here in Washington, came to tell me of their vision. Six of these boys, six among several hundred, are leaders. They have become interested in the cooperative movement. I hope I have the opportunity a year hence to tell you the second or third chapters of this story; because I know these boys, with their own little savings and their own hard work, are going to have a cooperative society in Washington; they are going to have a business of their own and by their own and for their own. Watch the story of the Back-of-the-Yards movement in Chicago during the next few years. I predict leaders will develop there, and through a credit-union movement—which is nothing but a consumer cooperative movement—and then through other forms of consumer cooperation they will recreate the society in the Back-of-the-Yards.

I suspect the members of this committee enjoyed the efforts made here to define the word "independent." As the chairman suggested, in one instance of some years ago, the Standard Oil Co. of New Jersey was described as an "independent." Mr. Hardey defined an "independent" as one who was not swayed or influenced by anyone, a rugged individualist.

That definition outlawed our cooperatives from the class of "independents" because we are swayed and influenced and owned and dictated to by millions of member-owners, or consumers. I had always thought the word "independents" in this industry referred to those individuals and those companies which were entirely free of any control by the major oil companies, or the financial interests related to the major oil companies. If that is the definition—and I think it is the one generally accepted by the public—then our cooperatives are "independents," they can be nothing else, and they will always be "independents."

We are opposed to every form of monopoly or trust. We are presenting to the world the one effective method of destroying monopoly. And thus we are the servants of democracy and of this Government of ours, because monopoly and democracy are entirely incompatible.

Mr. Chairman, I am confident that you and other members of the committee have had considerable propaganda from organizations of small businessmen who have been inspired to attack cooperative organizations. We seem to forget that the farmer and the wage earner in

industry are the smallest of businessmen, and in this ruthless economic system which we have developed, they are the weakest of the small businessmen. But the small entrepreneur is going to learn that his one enemy, the one enemy which he needs to fear, is monopoly, and that as the cooperative organization is the most effective enemy of monopoly, the best friend of the small businessman is the cooperative. In Sweden, for example, the statistics prove that as cooperatives developed and destroyed monopoly, the small entrepreneur and even the larger independent entrepreneur prospered. There is sound reason for that development. Just as the system of finance capitalism and monopoly creates an economy of scarcity, the consumer cooperatives create an economy of abundance and benefits for the many instead of the few. Mr. Hardey talked about "free enterprise." Well the cooperatives are the freest of free enterprise, and they create a free economy which makes free enterprise possible.

Mr. Hardey said that all his "independents" wanted was "the maintenance of an economic climate in which we can live and do our most effective work." The cooperatives go a bit beyond that request. We want an economic climate in which every man and woman and child in this country will be free to do their most effective work. We want nothing for ourselves that we do not want for others. We know that our welfare and our security are dependent upon and controlled by the welfare and the security of our neighbors.

Mr. Hardey said that "many independent producers have been leaving the business" and that "some have sold their properties to farm cooperatives who enjoy a tax advantage over private business."

Perhaps it was significant of Mr. Hardey's "independence" that he ignored the purchase of "independent producers" by the major oil companies until he was questioned by the chairman of this committee, and then he admitted that the major oil companies were buying most of the "independent producers" who are selling out. One of my friends in the Government service tells me the statistics would show a ratio of at least 10 independent producers purchased by the majors to 1 purchased by the cooperatives, and that perhaps the ratio would be 20 to 1 and even greater. I wonder why Mr. Hardey was so solicitous of the major oil companies, why he was so quick in another instance to speak out for them and proclaim that "they"—the major oil companies—"do not like the cooperatives any more than we do."

Mr. Chairman, the record of Mr. Hardey's testimony would indicate that he inspired himself into a state of fear which finally expressed itself in his statement that the cooperatives were "a trend towards Russia." I have not been in Russia and all that I know about Russia is what I read in the newspapers and magazines. Perhaps I am wrong, but my opinion is that an economic dictatorship exists in Russia. I am not trying to judge Russia, as I am not qualified to sit in judgment.

But the fact is, Mr. Chairman, that the one economic organization in this country which is opposing economic dictatorship by government and which is destroying the causes which produce economic dictatorship in government is the consumer cooperative movement. I think that if the chairman of this committee and I could sit together for a few hours and put the economic systems on the dissecting table he would agree, and without question, that the consumer cooperative

movement is one which compels—and by forces inherent in it—compels widespread ownership by masses or people or consumers—that it is a force towards decentralization—that it is a force which influences against the concentration of power. I do not know that I could convince him, and certainly I would doubt my ability to convince Mr. Hardey of what I am convinced, and that is that the forces which are inherent in the system of competitive finance capitalism are forces which cause concentration of finance, concentration of industry, concentration of people, and inevitable concentration of authority in government or statism. If Mr. Hardey fears the kind of government in Russia, he should join us and work for democracy.

I do not wish to take your time to engage in a philosophical discussion but since the day when Samuel Loyd of London—he was one of the first at least—since that day when he realized that it could be possible to develop a financial-economic system in which values would be expressed solely by money and when he realized how simple it would be to organize and consolidate and mobilize money and establish a dictatorship of money over mankind, we have been living in an economic system which compels concentration and in which might makes right.

We, our cooperatives, are building a new world and a new system. We know how difficult it is to develop democracy into its fullest flower, how difficult it is to educate ourselves as well as to help other people to understand, how difficult it is to inspire people or consumers to organize, and how simple it is to mobilize and monopolize money. But we are nevertheless at the task of encouraging people to help themselves, to serve themselves, to become dependent on their own efforts, to become self-reliant, and hence we are establishing the only possible basis upon which democracy can exist. We hope some day to even bring a Mr. Hardey into our camp.

I know how dangerous it is to seek for oversimplification, but even with that danger apparent, I shall repeat here what I have said elsewhere—that the distinction between the system of competitive finance capitalism and the cooperative system is just this: The system of competitive finance capitalism is one in which the primary incentive is the accumulation of wealth expressed in dollars, in which dollars employ men, and in which dollars are dignified. The cooperative system is one in which men employ dollars, in which dollars are restricted to a very low wage, comparatively, in which the business exists to provide men with goods and services, in which men are the masters of dollars, in which men are dignified.

Just the other day I heard a very gifted scholar tell how Francis of Assisi destroyed feudalism and established democracy, and with only one weapon, voluntary poverty. The speaker told of what he called "the mysterious forces in any spiritual movement which expand and expand and which cannot be destroyed." I shall tell Mr. Hardey that the cooperative movement will burst out all over the country and all over the world, as it is, because it is a spiritual movement.

Let me quote a statement from the Federal Council of Churches, our great national organization of Protestant churches:

> The freer exchange of farm and industrial products through consumer cooperation offers at once a more abundant economic life to both groups and brings them together in practical economic cooperation from which there can emerge a better society for all.

The National Catholic Rural Life Conference states:

Recognizing that cooperatives are in close harmony with Christian social philosophy and powerful instruments of self-help, the conference strongly recommends that communities devote themselves to a serious study of the Rochdale principles and to the history of the cooperative movement at home and abroad.

And Pope Pius XII, the present Pope, said:

Small and medium holdings in agriculture, in the arts and trades, in commerce and industry, should be guaranteed and promoted. Cooperative unions should insure for them the advantages of big business.

And I might add that Rev. Wilfrid Parsons, S. J., in his pamphlet, God in Economic Life, said that—

there is a movement in this country, and in fact throughout the world, which is in striking similarity with the papal plan—

as outlined in the Encyclical Quadragesimo Anno—

it is the cooperative movement.

Gov. Herbert H. Lehman said that—

The Rochdale cooperative policies of no discrimination because of race, creed, or political belief, and no exploitation of the many by the few * * * will facilitate relief and rehabilitation and promote enduring peace.

The Central Conference of American Rabbis said:

The Central Conference of American Rabbis takes official cognizance of the manner in which cooperative economic movements are endeavoring, by peaceful and democratic methods, to bring about a greater measure of equity to the lives of men; we heartily endorse the cooperative movement's motives and aspirations, and we pledge our interests and assistance in furthering its social aims. Moreover, we urge upon all our people a serious, favorable consideration regarding the significance of the movement, so that they may be able to help in the development of its salutary social values and adjust their own lives to whatever might prove to be the demands of this peaceful effort to save our democratic system.

One more quote—from Fortune:

By their very nature, cooperatives train those who participate in them in democratic methods; and while teaching self-reliance, they also teach interdependence—in a word, cooperation. These are qualities that we shall want to encourage.

I could add scores of similar quotations. Why have all the religious organizations, the labor organizations, the farm organizations, the educational organizations, and even the political parties endorsed the cooperative movement? I fear that I may make Mr. Hardey envious if I continue. So I shall stop there with the challenge to Mr. Hardey and to anyone else to show to me any movement or any business enterprise which is contributing more toward democracy than is the cooperative movement.

Some of the witnesses and members of the committee talked about the dangers of bigness. The cooperatives are laboring every hour of the day and in everything they do against the concentration of power over men. They are the one economic force which is destroying monopoly or bigness in business. Through their rule of one vote for one member-owner and only one vote regardless of how much money he may invest in the business, they provide for recognition of the dignity of the individual man. They provide for strength through federation of smallness, if you will.

Our consumer cooperatives are now the yardstick for automobile insurance, for example. You are buying your automobile insurance

at about 52 percent of what you paid 10 years ago and that benefit we have given to all of you. We are rapidly becoming a yardstick in the petroleum industry, and hence monopoly is attacking us. We fear them not. We are a yardstick in the fertilizer industry and in the seed industry and in the feed industry. In many places we have become a yardstick in the grocery business, and our last fight to establish a system of honest grade labeling is going to prevail.

Let me tell you of one of the most inspiring stories. Some years ago, the motor insurance companies collected $60 a year for insuring a school bus in Ohio. The insurance companies admitted the rate was high but they contended the risk was great. Eventually some of the farmers who were on township boards rebelled and asked our cooperative insurance company in Ohio to insure the school bus. We had not been in that phase of the insurance business but our company began with a rate of $45 and the profit companies reduced their rate. When the year ended, the cooperatives had so much in savings to return to their member-owners that they cut the rate to $30 and other companies met the rate. Again, the savings were immense so the rate was cut to $25. The savings continued and the next year our insurance company made a thorough study and decided a bus could be insured, in safety for $12.50 a year, and that rate was established. We discovered that a school bus was the safest of risks.

I am confident that despite all the attacks and anything that monopoly can do against us, the monopoly in the petroleum industry will meet its master in these cooperatives.

Mr. Chairman, how did Finland wipe out unemployment some years prior to the war? How did Denmark wipe out tenancy? Why is Sweden, despite its lack of natural resources, one of the soundest countries in the world and one with the highest standard of living? Why is Great Britain able to attack its overwhelming problems through a peaceful, evolutionary change in its economy? How did China survive and mobilize its productive resources during its terrible trial? How did Nova Scotia "rise from the dead" as one writer entitled that story? How was communism, rampant in one community in Nova Scotia, completely dissipated? You will find the answers in the cooperative movement.

It makes us a little bit angry, Mr. Chairman, when these good men such as Mr. Hardey come here and join with others in attempting to smear the cooperative movement and destroy it and to thus injure our country, irreparably. Of course, they will not succeed.

Mr. Hardey was specific in two criticisms of the cooperatives. He objected to their ability to borrow money from the farm cooperative banking system. And he objected to what he described as a "tax advantage" had by the cooperatives.

The farm credit system had its beginning, as I recall, in the early years of the Wilson administration. The Government recognized the obvious, that the then existing credit systems did not fit the agricultural patterns; and without objection our Government began to develop a credit system which would. The system was expanded when agriculture was made bankrupt by a ruthless financial power in 1920, and the system has been improved since.

There may have been some Government subsidy in the system in its earliest days. But I am sure there is not today. There are few

of our farm cooperatives which cannot have all the credit they wish from private lenders of money and at less cost today than they pay to the farm cooperative banks. Just the other day, I had the manager of one of our farm cooperative associations in my office and he told me that the private banks in his State were begging him to take a line of credit at 1½ percent when he was paying about 3 percent to the farm cooperative banks. Our cooperatives are loyal, however, to the farm credit system and they will continue to pay more in interest today as insurance against any possibility that the private financial powers will again get them in their grasp.

There is no secret in the credit strength and soundness of these cooperatives. We all know that productive land is the finest security in the world—it must be if we would continue to live. And these cooperatives are instruments to make that productive land a very liquid credit risk. I say that these cooperatives today are the finest credit risks we have. And as we educate our member owners and as they understand the economics in this program, the cooperatives will accomplish their final objective which is to escape entirely from debt or credit—other than the investments of their member owners.

Mr. Hardey should know that our urban or city cooperatives are developing all over the country—that they have no farm credit system to make use of—and that they are not concerned about credit.

I turn now to the tax question. The only question, or issue, which can be involved in any discussion relates to the income tax. Of course, I should add the capital-stock tax but that is insignificant. And I should add again, that the issue relates only to the "farm cooperatives" because the hundreds of city cooperatives or joint city and farm cooperatives have no exemption and pay every tax, income tax and all other taxes, paid by any other form of business.

I should add that the Midland Cooperative Wholesale of Minneapolis, one of the largest and finest of cooperative organizations, which is owned almost entirely by farmers and which could qualify as a "farm cooperative" for tax purposes, is not and has never been interested in tax exemption.

I mention Midland specifically—and Midland is owned by some 200,000 families in Minnesota and Wisconsin and Iowa—because Mr. A. J. Smaby, manager of Midland, asked me to represent him here today. I could also mention Central Cooperative Wholesale of Superior, Wis., owned by some 70,000 families, practically all of them farmers, and they want no tax-exempt status. In fact, I think the records will show that at least 50 percent of our farm cooperatives are not interested in tax exemption. Recently, one of the managers of a cooperative, a large one, which has had a status as a "farm cooperative" and which is therefore qualified as a "tax exempt" organization, told me they were going to renounce the status because they have discovered it is too costly to them. The little money they save through tax exemption is only a small part of the increased savings they will have when they renounce the status and expand into cities—as they now plan to do.

I am confident that any study of the recent report by the Bureau of Internal Revenue on so-called tax-exempt cooperatives will demonstrate that the Government will not collect more than $5,000,000 additional, if paragraph 12 of section 101 is repealed, and that the cost of

administration will exceed the revenue obtained. Some of my friends in the Bureau of Internal Revenue believe the Government will collect not more than $2,000,000 additional.

Mr. Chairman, I think you may recall that I directed a study of taxes and tax administration which was made by the Senate in the years 1924 to 1928, inclusive, and that I worked for one permanent development during that period, and got it through writing the resolution which created the Joint Congressional Committee on Internal Revenue Taxation. I am a bit proud, I confess, of that accomplishment. I had hoped that that committee would have at its command a fine group of scholars and experts and that it would be entirely free to expose to the Congress at all times every tax condition which injured the public welfare. I still hope that day will come. There are fine men and women over there in that committee but they need more of them, and the finest of them, and they need to be inspired to engage in a constant campaign of presenting to the Congress the story of taxation and particularly of the administration of our tax laws. If that committee will do a thorough job on "tax evasion" of all kinds, I am sure there will be no further attacks on cooperatives.

Our Constitution provides for the taxation of income. The Congress has authority to write laws which provide for the taxation of income. I think a general summation of the court decisions would justify a statement that the courts have declared only the obvious—that you have income when the wealth that you own and control has been increased during a certain period, let us say during the year in question. Now, let us apply that test to money received by cooperatives and you will find they do not have "income."

Our cooperatives are aware of the necessity of taxation, until it really hurts, to balance the budget of Government. I think the representative of the Cooperative League, USA, Mr. E. R. Bowen, was the only witness who appeared before the Senate Committee on Finance at the start of the war and urged that every dollar of war-increased income should be taxed, and that the threat of debt and inflation should thus be avoided.

I do not want to discuss here, at this time, the millions and billions of dollars of subsidy the Government has given to the oil industry—first in what we knew as discovery depletion and what we now know as percentage depletion. If you want me to tell you the history of that tax proposal, and to debate its justice or its soundness with any representative of the industry, and you will give me a day or two for that purpose, I shall be delighted with the opportunity. I say to you that that subsidy—practically all of which goes to the major oil companies—cannot be defended on any ground, in my humble opinion. And that provision of law is costing the Government more than a quarter of a billion dollars each year, and other subsidies it has spawned for other natural-resource industries are costing another quarter of a billion dollars. Will you compare that subsidy of half a billion dollars with the few million dollars which may be taxed against cooperatives and then ask what justification there is for an attack on cooperatives.

I have not had time to look up the story—but some of my friends tell me there is a story in the Fortune magazine for January in which one of Mr. Hardey's associates here reveals how his company pays no

taxes. If I had that story here, I'd ask to put it into this record, because it is about time that we should begin to put the story of taxes and tax evasion before the public and expose the hands of those who come here to smear cooperatives.

(Appendix A follows:)

APPENDIX A

REGIONAL COOPERATIVES AFFILIATED WITH THE COOPERATIVE LEAGUE, NATIONAL COOPERATIVES, AND THE COOPERATIVE FINANCE ASSOCIATION OF AMERICA

Alberta Cooperative Wholesale, 107 Revillon Building, Edmonton, Alberta, Canada.
American Farmers Mutual Auto Insurance Co., St. Paul, Minn.
Associated Cooperatives, 815 Lydia Street, Oakland, Calif.
Central Cooperative Wholesale, Superior, Wis.
Consumers Cooperative Association, 318 East 10th Street, Kansas City 6, Mo.
Consumers Cooperative Associated, Box 1150, Amarillo, Tex.
CUNA Supply Cooperative, Madison, Wis.
Eastern Cooperative League and Eastern Cooperative Wholesale, 44 West One Hundred and Forty-third Street, New York 30, N. Y.
Farm Bureau Cooperative Association, 246 North High Street, Columbus 16, Ohio.
Farm Bureau Mutual Auto Insurance Co., 246 North High Street, Columbus 16, Ohio.
Farm Bureau Services, 221 North Cedar Street, Lansing, Mich.
Farmers Cooperative Exchange, Raleigh, N. C.
Farmers Union Central Exchange, P. O. Box G, St. Paul, Minn.
Farmers Union State Exchange, Thirty-ninth and Leavenworth Streets, Omaha, Nebr.
Indiana Farm Bureau Co-op Association, 47 South Pennsylvania Street, Indianapolis 9, Ind.
Industrial Arts Cooperative Service, 519 West One Hundred and Twenty-first Street, New York 27, N. Y.
Manitoba Cooperative Wholesale, 230 Princess Street, Winnipeg, Manitoba.
Midland Cooperative Wholesale, 739 Johnson Street NE, Minneapolis 13, Minn.
Pacific Coast Student Co-op League, Berkeley, Calif.
Pacific Supply Cooperative, P. O. Box 1004, Walla Walla, Wash.
Penna Farm Bureau Cooperative Association, 3607 S. Derry Street, Harrisburg, Pa.
Saskatchewan Federated Cooperative, Saskatoon, Saskatchewan, Canada.
United Farmers Cooperative Co., Duke and George Streets, Toronto 2, Ontario, Canada.
Utah Cooperative Association, 526 West Eighth South, Salt Lake City 4, Utah.

Mr. FRASER. I also would like to introduce in the record a study on the subject of "Cooperatives and the Petroleum Industry," which Mr. Majewski left with me when he had to leave town last week to attend a lengthy meeting in Fort Worth, Tex.

The CHAIRMAN. Are copies of that available to the co-ops?

Mr. FRASER. No. Nobody has seen this, so far as I know. He just left it here to be submitted as a statement.

The CHAIRMAN. All right, it may be received.

(The statement submitted for Mr. Majewski is as follows:)

COOPERATIVES AND THE PETROLEUM INDUSTRY

PURPOSE OF THIS PAMPHLET

The facts presented in this survey are intended to explain the legitimate interest of the American petroleum industry in the cooperative movement, and to refute irresponsible charges that the industry is hostile to cooperatives as such, or is misrepresenting their place and function in the American economy.

First, then, for the record, so it cannot possibly be misunderstood: The petroleum has no quarrel with cooperatives themselves and is not seeking to advantage itself at the expense of the cooperatives or any other consuming group. Under our system of free American enterprise, cooperatives have just as much legal and moral right to exist and to prosper as has any other form of proper enterprise. This statement which needs not be repeated is implicit in everything that follows in this study.

In fact, equality of opportunity under the law is presupposed and championed by the petroleum industry for all forms of American business. This survey assembles the facts on which to answer these questions: (1) Is there now a true equality of opportunity between cooperatives and private enterprise in the petroleum industry? (2) If not, what are the discriminations and what are their consequences? (3) If such discriminations exist what is the remedy?

I. HISTORICAL INTRODUCTION

The general growth of the cooperative movement

While this booklet is concerned solely with the question of cooperatives in the petroleum industry, as a contextual aid, a brief glance may be taken at the world growth of the general cooperative movement.

Cooperativism as a form of business endeavor has been known over the centuries, but its historical beginning as an economic movement may be dated from the establishment in 1844 of the Equitable Society of Rochdale Pioneers. The pioneers were a poverty-ridden group of 28 weavers in the textile town of Rochdale, England, who pooled their scanty savings and opened their famous cooperative store in Toad Lane.

The weavers and their cause thrived. The cooperative movement in its first hundred years shows the greatest growth of any membership movement in history. At the outbreak of the present war cooperatives included 100,000,000 member families (perhaps 400,000,000 persons in 39 countries). In addition there are believed to be another 240,000,000 persons in other noninternationally federated cooperative groups. Even allowing for duplication and exaggeration, the cooperative movement has enrolled in its ranks, closely or loosely, about one-fourth of the population of the world.

The membership of cooperatives in the United States is not on record accurately and officially; but figures compiled from the Cooperative Research and Service Division of the Farm Credit Administration show a total of more than 15,000,000 for the year 1942–43. Farm marketing and purchasing cooperatives, by latest tally, have 4,390,000 members, and their business volume, according to Government statistics, reached $5,160,000,000 in 1944, an increase of $1,380,000,000 over the 1942–1943 level. And city consumer cooperatives are credited with another $2,000,000,000 business.

Clearly, cooperative enterprise has attained the stature of "big business," and it is especially significant to note that the greater part of this expansion has taken place in the last 25 years. Cooperatives now are growing 10 times faster than private business, with a mortality rate 80 percent lower. This growth of cooperatives in the United States is, as we shall see, integrally related, historically and ideologically, with their world development.

Growth of cooperatives in petroleum

The rate of growth of the cooperative movement in the petroleum industry has been even greater than its over-all rate of growth. The first retail petroleum cooperative—a single service station—was organized at Cottonwood, Minn., in 1921. Midland, first cooperative wholesale, formed primarily for the distribution of petroleum products, was set up in Minneapolis in 1926, and in 1938 the cooperatives entered refining with the purchase by the Pacific Supply Cooperative of a one-third interest in the Husky Refinery, Inc., at Cody, Wyo.

At present there are 2,327 local cooperatives supplying at least 20 percent of the oil and gasoline requirements of American farms (1)[1] There are about 2,000 cooperative service stations, 11 cooperative petroleum refineries valued at more than $14,000,000, while cooperatives operate terminals, barge systems and blending plants. One group of cooperatives owns 600 oil wells and 1,200 miles of pipe line.

Petroleum sales by cooperatives in 1942 included 655,000,000 gallons of refined products, 10,792,000 gallons of lubricating oils, and 12,929,000 pounds of

[1] Figures in parentheses are documentary references to bibliography, *infra*, p. 517.

grease (2). Nation-wide cooperative distribution of petroleum is now about 2 percent of total United States consumption, and the value of cooperative petroleum trade has passed $250,000,000 annually (3). Here again the rate of growth is noteworthy. Petroleum distribution by the cooperatives increased 150 percent during the 5 years 1936 to 1941, and has increased another 20 percent in the last 2 years.

In fact, the cooperatives are now the largest single independent petroleum operator in the country, and the American cooperative movement has its second greatest strength in the petroleum industry.

This rapid expansion has been characterized by a trend toward integration and a growing emphasis on refining operations.

A few case histories afford the best illustration of cooperative growth in petroleum:

Consumers Cooperative Association of North Kansas City, Mo., now leads all other cooperative wholesales in the amount of petroleum sold. This organization began operations in 1929 with $3,000 capital, and reported for 1944 assets of $11,658,234, a gain of 170 percent over 1943. CCA's sales, which in 1929 amounted to $309,000, have now topped $16,000,000 yearly, of which more than $12,000,000 is in petroleum.

Next comes the Illinois Farm Supply Co., only last year displaced from first position by CCA. The total value of petroleum products (including the small undifferentiated category of automobile accessories) sold by Illinois Farm Supply in 1942 was $9,750,317. Petroleum sales by the cooperatives in Illinois exceed that of any other item, and a survey by the Chicago Journal of Commerce reveals that gallonage of the Illinois Farm Supply and its member units increased 19 percent from 1941 to 1944, while the gallonage of major oil companies declined 23 percent, and that of the state as a whole declined 29 percent.

The Grange League Federation Exchange of Ithaca, N. Y., largest of all cooperatives in the United States, did a business for the year ending June 30, 1944, of $245,000,000, of which a substantial amount was in petroleum.

And so the list could be extended. The oil sales of 17 big cooperative wholesales in 1943 was $59,701,811.

In refining the same rapid expansion is noted. National Cooperative Refinery Association in 1940 constructed a 3,400-barrel plant at a cost of $564,000 in Phillipsburg, Kans. This refinery paid for itself in 33 months as against an estimated 15 years needed for private business to pay for a similar plant out of profits (9). National Cooperative Refinery, which was created in 1939 by CCA and other cooperatives, in 1943 purchased the Globe Oil & Refining Co.'s 17,500-barrel plant at McPherson, Kans., for $5,000,000, and that same year bought the 13,500-barrel plant of the National Refining Co. at Coffeyville, Kans., for $4,000,000. In the deal were 269 producing wells, 869 miles of pipe line and more than 80,000 acres of land and leases in five States. Net earnings of NCRA for 1944 were $1,274,373.

Cooperatives have acquired other refining installations in Oklahoma, Indiana, Montana, Nebraska, and elsewhere. Until 1943 there were only three cooperatively owned refineries in the country with a combined capacity of 9,650 barrels a day; by early 1944 cooperatives owned 10 refineries.

This rapid refining expansion brings up an interesting problem. The present cracking and skimming capacity of all cooperative refineries is about 70,000 barrels a day, on industry estimates. This is an annual throughput of 25,000,000 barrels at capacity. Perhaps no more than 70 percent of this is consumed in the territory served by the cooperatives. This would mean a yearly excess of 5,000,000 barrels even if cooperatives supplied the full requirements of their areas. By law, cooperatives in order to qualify for certain tax exemptions must do 50 percent of their business with members and 85 percent with farmers. If cooperative refinery capacity is already extended—and industry authorities generally believe this to be the case—the question arises as to the future legal position of cooperatives operating under farm charter. When war demands for petroleum are relaxed and normal competitive conditions reestablished, cooperative excess refinery capacity may prove to be a real problem. The need to take up such excess is believed by many to be the reason for the cooperatives' projected international oil program.

The proposed petroleum international cooperative

The transactions cited above are merely highlights in the recent cooperative expansion throughout the petroleum industry. Postwar plans are even more startling. Howard Cowden, president and general manager of CCA, first pro-

posed in 1937 the establishment of an international cooperative petroleum society. In his words, "Its function would have been to produce crude oil, refine it and deliver the refined products overseas in tankers for distribution through retail cooperatives."

Mr. Cowden adds: "In the meantime petroleum refining has gone beyond the regional stage to the national level. In July 1943, five regional cooperative wholesales organized the National Cooperative Refinery Association to purchase and operate a refinery at McPherson, Kans., and a 229-mile refined products line. The plant at capacity can produce 175,000,000 gallons of refined fuels annually. NCRA was the first national federation of its kind in the world. It is significant to me because it undoubtedly foreshadows an international development in all phases of the petroleum industry as a logical next step" (10).

In 1944 Mr. Cowden proposed an international cooperative refinery using from 10,000 to 15,000 barrels of crude oil daily cost of which he put at $12,160,300 "for oil wells, pipe lines and the refining facilities themselves." He suggested that $8,269,980 come from cooperatives (20 percent from United States groups). Government aid was suggested for this enterprise through the Reconstruction Finance Corporation's Petroleum Reserves Corporation (6).

On June 27, 1945, the Cooperative League of the United States of America announced that it had chosen Mr. Cowden, together with another cooperative leader, Murray Lincoln, as delegate to the meeting of the International Cooperative Alliance in London in September 1945. At that time plans are to be perfected for the international petroleum program to be carried on by the International Cooperative Trading and Manufacturing Association. Presumably cargo ships and tankers are expected from the Maritime Commission's postwar surplus (7).

This current rapid growth of the cooperative movement and its declared plans for the future justify what the opening sentence of this study terms the legitimate interest of the petroleum industry in cooperatives. And the whole problem is underscored by the statement of James P. Warbasse, president emeritus of the Cooperative League, at the 1941 annual meeting of CCA:

"The oil business in the United States is destined to be taken over by the Government, or it is destined to be run by the cooperatives. * * * You are the people who are taking the only steps that make it possible to put the petroleum business in the private possession of the people * * *." (8).

However, even after this review there is no reason as yet to attribute unfair advantage to the cooperative position. Equal opportunity for growth and prosperity is the birthright of our American way of life.

We now turn to the further and central question: Has this cooperative expansion in petroleum taken place in accordance with the principle of equal competitive opportunity between cooperatives and private enterprise?

II. WHAT ARE COOPERATIVES?

We have been using the term "cooperative" as though it were perfectly precise. Actually, it needs analysis. The original Rochdale Society a century ago sought to improve its social and economic status through the collective purchase of the living requirements of its members at fair prices and through direct personal association in a common work. Today cooperatives in at least one characteristic respect have lost this personal, face-to-face feature and have taken on the semblance of the typical, impersonal "big business" institution. We shall inquire later into the meaning of this transformation.

Cooperative literature has usually classified cooperative associations into the four classes: (1) Purchasing, (2) marketing, (3) production, (4) credit. No such division, however, offers a clear-cut category of structure and function. There is a steady process of the blurring of distinctions between these activities, overlapping of duties and purposes, and integrated mergers among the associations. For instance, wholesale cooperative societies set up by various consumer cooperatives have become the key in the cooperative distribution system. Also marketing and purchasing functions have become united in all the large cooperatives, while production cooperatives have become the arm of wholesale societies.

A more categorical classification would be (1) consumer-producer cooperative, (2) marketing-purchasing cooperative. But here, too, a strict functional distinction is not achieved. Producer cooperatives also market the goods they make. For the purposes of this study the classification (1) farm cooperative, (2) nonfarm cooperative will receive much attention. Still another currently re-

alistic classification is on the basis of size and complexity of the cooperative organization—local, wholesale, regional, super, and international.

One authority of the Cooperative Research and Service Division of the Farm Credit Administration says: "Generally speaking, the question whether an organization is a cooperative arises with respect to a particular statute or statutes. From a Federal standpoint, there is no all-inclusive statutory definition of an agricultural cooperative" (10). Perhaps the minimal definitional characteristics of a cooperative are these: (1) it is a business operation, (2) owned by its patrons, (3) which distributes its earnings back to its customers.

While the definition of a cooperative is only approximate under the law, one feature is clear and definite—cooperatives are intended under the law to be capitalist business organizations.

"Agricultural cooperation is a method of doing business. * * * It should be kept in mind that a cooperative association is a capitalistic institution. * * * Associations are formed for the same reason as other business enterprises." (10)

This concept is highly important in the analysis which follows: the cooperative is not to be regarded as an institution fundamentally different from any other type of business concern in the American economic system, and under our national laws. As expressed in one court decision: "The character of a corporation is determined by its functions and how they are performed. And a corporation may be entirely cooperative, although incorporated under a business corporation statute" (10).

III. PREFERENTIAL TREATMENT GIVEN COOPERATIVES

A history of favoritism

Despite this legally grounded principle that a cooperative is no different from any other type of corporation, cooperatives have come to enjoy certain favored positions under the law. A brief chronological sketch of this preferential treatment follows:

1913—With the enactment of the Federal income-tax law, Congress provided that the act should not apply to agricultural and horticultural associations and certain other organizations which were considered to be nonprofit. Although its own corporate income-tax rate was then 1 percent, private enterprise made no protest to this cooperative exemption.

1916—Specific provision was written into the Revenue Act that year that "farmers,' fruit growers' and like associations, organized and operated on a cooperative basis and acting as a selling agent for members," should be exempt from Federal income tax. The regular corporation tax rate was doubled to 2 percent. Private enterprise made no protest.

1921—The legal tax exemption applying to "farmers, fruit growers and like associations" was widened to include purchasing as well as marketing activities. The corporation tax was fixed at 10 percent, and an additional excess profit tax was imposed. Private enterprise made no protest.

1922—The Capper-Volstead Act legalized the cooperative system of business and declared that a cooperative composed of farmers, fruit growers, or such should not be considered a monopoly regardless of what it might do unless pronounced a monopoly by the Secretary of Agriculture. Thus cooperatives were extended safety from prosecution under the antitrust laws.

1926—Congress legalized in the Revenue Act of 1926 many more preferences and advantages which had been granted cooperatives during the preceding 4 years. For the first time corporation dividends became taxable, introducing the principle of double taxation of corporation profits, and fixing the corporation tax rate at 12 percent. Private enterprise made no protest concerning special privileges extended cooperatives.

1933—The Farm Credit Act created the Bank for Cooperatives to lend money to cooperatives on specially favored terms, 1½ to 4 percent. From the time of their organization to December 31, 1942, these banks had advanced to farmer cooperatives more than a billion dollars, and such aid was responsible for the launching of many new cooperatives that would have been poor financial risks for private capital.

1933—The Securities Act of 1933 relieved farm cooperatives of the necessity of obtaining SEC approval to the sale of their securities.

1935—The Agricultural Adjustment Act provided that "recognition and encouragement" be given cooperatives in dealing with Government. This was generally interpreted to mean "preference" to cooperatives in the purchase of surplus war goods and in the sale of commodities to the Government.

1936—The Robinson-Patman Act exempted cooperatives from the restrictions and prohibitions against rebates and discounts in making purchases, although such restrictions apply to other corporations.

1938—The AAA acts authorized the Secretary of Agriculture to help cooperatives obtain lower transportation rates.

1944—OPA regulations permitted cooperatives to break through price ceilings. For instance, cooperatives can pay more for milk and other farm products than private corporations are allowed to pay.

In addition to these special privileges, cooperatives have come to enjoy much else in the way of preferential status under the law. The Miller-Tydings Act, as example, permits under certain circumstances the fixing of minimum resale prices for branded merchandise. Cooperatives are permitted to avoid this act through the medium of the payment of patronage dividends. Also, the Rural Electrification, Federal Land Bank, and various other Federal laws grant special favors to cooperatives.

Many States permit cooperatives to avoid their fair trade laws and require cooperatives to pay only minimum taxes. Both Federal and State agencies have provided cooperatives with many management services, such as organizational, accounting and research. In fact, Congress has created the Cooperative Research and Service Division of the Farm Credit Administration "to work with and strengthen the cooperative movement, to act as a clearing house from which groups of farmers and others may obtain information, and to conduct scientific studies of co-op problems of all kinds in order to further cooperative efficiency" (11).

By early in 1940 the Cooperative Research and Service Division had 46 research projects in progress, including those relating to problems in competition, advertising, cost and price policies, and sales methods.

Now this is a very significant list of favoritisms extended cooperatives and such special privileges are difficult to reconcile with either the legal theory of cooperative enterprise itself, or with the American standard of fair play and the same competitive rules for all. However, the real crux of the issue lies in the question of tax exemption. High wartime taxes have brought the matter to a focus, coupled with the coincident growth of the tax-free competitors of private enterprise. We have already noted that the period of cooperative favoritism coincides with the period of their most rapid expansion. In 1921 corporate income taxes were only 10 percent; today they average in excess of 65 percent. In 1940 an excess-profit tax of 50 percent was added to a tax base increased more than 20 percent itself. The present rate of a 40-percent base and 95-percent rate on excess profits points up cogently the problem of tax-free competition for any American industry or business. We shall now examine it in some detail.

IV. THE MEANING OF TAX-EXEMPTION FOR COOPERATIVES

On the basis of the amount and kind of taxes paid, we may now introduce the following new classification of cooperative associations:

1. Wholly exempt farmers' marketing cooperatives and farmers' purchasing cooperatives, as specifically named in paragraph 12, section 101, of the Internal Revenue Code.
2. Non-tax-exempt farmers' marketing cooperatives and nonexempt farmers' purchasing cooperatives which have chosen not to qualify for complete Federal income-tax exemption, but pay tax on such part of their earnings as is not returned to members or nonmembers in the form of patronage dividends.
3. City consumer-purchasing cooperatives which escape payment of any but the smallest amounts of Federal income tax by distributing their earnings in patronage dividends.
4. Service cooperatives, operating telephone systems, electric networks, funeral parlors, hospitals, etc., which come under the same tax regulations as city consumer cooperatives.
5. City producer cooperatives; important in Europe but not in the United States. These, too, escape taxation by distributing earnings as patronage dividends.

Notice throughout the words "patronage dividends." This is the central issue and will be discussed shortly. One other thing the preferential status given cooperatives in the past, clearly was done on the theory that the farmers needed a subsidy to exist.

At no time, obviously, was there any intent on the part of Congress to create a competitive position ruinous to private enterprise or to set up an escape mechan-

ism from taxes for any group operating oil wells, refineries, pipe lines, or such enterprises.

The following comparison table contrasts the tax position of farm and nonfarm cooperatives:

EXEMPT (*Farm Cooperatives*)	NONEXEMPT (*Nonfarm Cooperatives*)
1. Patronage dividends untaxed.	1. Patronage dividends untaxed.
2. Refunds held as equity and credited on books to member accounts untaxed.	2. Untaxed if evidence of indebtedness are given.
3. No tax on capital stock issues.	3. Subject to capital stock tax.
4. Dividends on capital stock untaxed.	4. Subject to income tax.
5. No stamp taxes.	5. Capital stock issues, transfers, debentures subject to stamp tax.
6. Advantages under Unemployment and Security Act.	6. Subject to these taxes.
7. Increases to surplus or general reserve untaxed.	7. Subject to taxes.
8. Loans available from Federal agencies at favorable interest rates.	8. No Federal loan advantages.

The following table shows how this tax structure works out for private business compared with cooperative enterprise:

Comparison of taxes paid by business institutions with special types of cooperatives (including taxes paid by recipients of profit distributions)

	Business institutions			Cooperative corporations		
	Individual proprietorship	Partnership (2 individuals)	Business corporation	Exempt farmers	Nonexempt farmers	Consumer (city)
Total profits before taxes	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Federal income and excess-profits taxes	[1] None	[1] None	[2] 65,000	None	[3] 2,500	[3] 2,500
Profits after taxes	100,000	100,000	35,000	100,000	97,500	97,500
Surplus reserves	None	None	[4] 18,900	[5] 28,000	[6] None	[6] None
Dividends to owners or patrons	100,000	100,000	16,100	[7] 72,000	[7] 97,500	[7] 97,500
Taxes paid by recipients of profit distributions	[8] 70,320	[9] 56,640	[10] 3,381	[10] 15,120	[10] 20,475	[11] None
Net profit to individual owners or patrons	29,680	43,360	12,719	56,880	77,025	97,500
Total profits remaining after taxes (including surplus reserves)	29,680	43,360	31,619	84,880	77,025	97,500
Total tax	70,320	56,640	68,381	15,120	22,975	2,500

[1] In the case of individual proprietorships and partnerships, Federal income tax is levied on the income of the individual recipient. Profits are taxed in their entirety regardless of retention in the business.
[2] Based on average tax paid in 1944 by business corporations—65 percent of profits.
[3] Based on $10,000 paid as dividends on capital stock (corporate tax estimated at 25 percent).
[4] In 1944 business corporations set aside approximately 54 percent of profits after taxes in reserves for postwar expansion.
[5] 17 large regional associations set aside 28 percent of profits in direct reserves.
[6] Nonexempt cooperatives create reserves by payment of noncash patronage dividends.
[7] Includes both dividends on stock and patronage refunds in cash, stock, equity certificates, and book allocations.
[8] Based on total income, assuming individual has income from other sources of $3,000 (married; no dependents).
[9] Based on distributions to 2 partners, assuming each partner has income from other sources of $3,000 (married; no dependents).
[10] Based on $100 dividend distribution to each individual member having income from other sources of $3,000 (married; no dependents). Few farmers report patronage dividends for income-tax purposes. This represents theoretical amount paid. In the case of 1 cooperative paying $205,000 in patronage dividends a study revealed that only $5,000 had been reported for tax purposes.
[11] Patronage dividends received by members of consumers' cooperatives are not taxable to the recipient unless goods purchased are used to create income.
Table prepared by the National Tax Equality Association.

Concerning the tax discrepancy between cooperative and private enterprise, the following is the opinion of one authority:

"The recent very rapid growth of cooperatives in the petroleum industry has chiefly been the result of (1) exemption from the payment of war-high Federal income and excess-profits taxes; (2) the cooperative policy of paying patronage dividends to members in shares of stock instead of in cash, thus making possible (3) the pyramiding of cooperative capital structures at a rate impossible to private enterprise; (4) the legal ability of cooperatives to raise additional capital by the sale of stock without SEC approval." (12)

This same authority reports that Federal tax revenue could be increased by at least $10,000,000 a year if tax-exempt petroleum cooperatives were taxed on the same basis as the tax paying companies with which they are in competition. He said: "Fourteen major cooperative wholesalers, which distribute petroleum products and in some cases engage in production and refinery operations, made the following distribution of their combined net earnings in the fiscal year ending 1942:

	1942	Percent
"Cash patronage dividends	$2, 636, 085	25. 4
Patronage dividends in capital stock and certificates of equity	3, 799, 212	36. 6
Retained in reserves	3, 485, 861	33. 6
Cash dividends on stock	462, 019	4. 4
Total	10, 383, 177	100. 0"

The tax subsidy to cooperatives enabled this group to retain 70.2 percent of tax-free profits in their capital structures.

Cooperatives have contended "that in a matter of maybe 15 or 20 years they will become the biggest single factor in the oil business" (13).

"These huge productive enterprises are being for out of profits which largely would be absorbed by Federal income and excess profits taxes were they privately owned. This means that cooperative ownership is subsidized and that cooperative enterprise is indirectly paid for by all taxpayers. This is borne out by the facts. Fourteen major cooperative wholesales, which distribute petroleum products or, in some cases, engage in production and refinery operation, earned $10,383,177 during their fiscal years ending in 1942. They were able by devious means to retain $7,285,073 or 70.2 percent of the tax-free profits in their capital structures. Since private enterprise paid 63.4 percent of their profits in Federal income taxes in 1942, it readily can be seen that tax-exemption is presently subsidizing cooperative expansion." (14)

The Farm Credit Administration reported that at the end of 1943, "17 major regional purchasing cooperatives had a total net worth of $37,646,846 * * *. The associations reported that $24,865,765, or 66 percent, represented amounts which had been retained out of savings, while $12,604,624, or 33.5 percent, represented amounts accumulated through the sale of stock" (15).

Sale of cooperative stock

Cooperatives have raised capital by the sale of capital stock, some preferred stock having been placed in the open market. A prospectus by Consumers Cooperative Association offers preferred shares at $25, to bear 4-percent noncumulative interest annually and to mature in 10 years or in 5 years. The CCA prospectus quotes extracts from letters received by various investors, and contains this significant paragraph:

"These three letters are samples of several thousand inquiries and investments already received. Two women who have never seen CCA nor any of its staff, one of them on the east coast, the other on the west coast, have made repeated investments till now each has $12,000 in CCA."

This raises a serious question. Such a type of transaction is clearly far removed from the original theory of cooperative enterprise as a face-to-face, personal business. Is there any difference between this type of financial enterprise and that represented by the most absentee ownership of private corporations?

Interestingly, in this connection, such cooperative capitalist transactions have been condemned in their own ranks. The Socialist newspaper, The Call, an

ardent supporter of the cooperatives and the publisher of a weekly column backing the cooperative movement, said in its issue of July 30, 1945:

"The Eastern Cooperative Wholesale's board of directors voted unanimously on June 24 for the issuance of nonvoting preferred stock. This makes an even dozen cooperative wholesales which are financing partially through preferred stock.

"The use of preferred stock by cooperatives is a direct blow at the very heart of the cooperative idea * * *. Preferred stock earns dividends pure and simple, 4 percent (or whatever other percentage is decided) on the par value of the stock; the more you own the more you receive. And you get paid before the common stockholders, the fellows who organize the co-op for their own use * * *. Then the co-op has become a profit business. Even if there is something left for refunds, the enterprise is hardly different from R. H. Macy & Co. in New York, which annually distributes a 1 percent rebate on purchases to customers who hold deposit accounts."

This is a common practice: Instead of paying patronage dividends in cash, the cooperative goes through the motions of selling preferred stock or other evidence of equity to members and patrons and so retains the cash as additional capital or reserves for the operation and expansion of the business. In such sales the member-owner often has no option. Nor can he, in most instances, sell his stock or participating certificates, or in any other way realize whatever cash value they may have, until the management of the cooperative corporation permits him to do so.

Total accumulations of this sort run into many hundreds of millions of dollars.

One index of this cooperative expansion made possible by tax-free earnings is seen in the business mortality rate figures. Among income tax-paying businesses there have been 1,339,000 failures since the beginning of the war. During the same period, approximately 809,000 new businesses were established, leaving a net loss of 530,000 businesses. This covers the same period of time that marks the phenomenal development of cooperatives.

Huge Federal revenue losses

Cooperatives frequently reply to the facts of tax inequality with the retort, "If you don't like paying taxes, pay out your earnings as patronage dividends, and you won't have to pay Federal income tax."

But the petroleum industry believes in the American system of free enterprise, and it believes that our Government is worth supporting.

How the cooperative philosophy reacts on Federal revenue can be seen from a few examples. Tax revenues are being depleted at a rapid rate by the shift of taxpaying business to a tax-exempt status. In the last 2 years petroleum refineries, grain elevators, and coal mines, factories, mills, and many other industries worth millions of dollars have been taken off the Nation's tax rolls through acquisition by cooperatives and through voluntary change from private to cooperative status.

The Pacific Supply Cooperative in 1943 sold its one-third interest in the Husky Refining Co. because (in the words of the cooperative) "the corporate income-tax structure had reached the point where it was confiscating most of the earnings of the company." The sale was made in August 1943 for $270,000 "in excess of the actual money invested in the company from time to time during the period of stock ownership." The cooperative, then, in its annual report makes the following statement:

"The question of how this gain will be handled by Pacific Supply in order to prevent it from becoming a problem from the standpoint of the Bureau of Internal Revenue naturally has arisen and in order to determine the proper course of action, your president and manager conferred with proper officials in the Bureau of Internal Revenue at Washington, D. C., during October of 1943. Acting on their advice, in event we want to be ruled tax-exempt in connection with this transaction, the entire gain from the sale of the Husky Refining Co. stock over and above the amount actually invested, is being placed in a fund on which certificates of permanent interest based on patronage will be issued to each and every member company. These certificates will not be redeemable except in the case of dissolution of Pacific Supply Cooperative.

"By this procedure we have been advised we will qualify for exemption, insofar as this particular transaction is concerned, from any violation of Bureau of Internal Revenue rules and regulations. Only by this procedure can we avoid

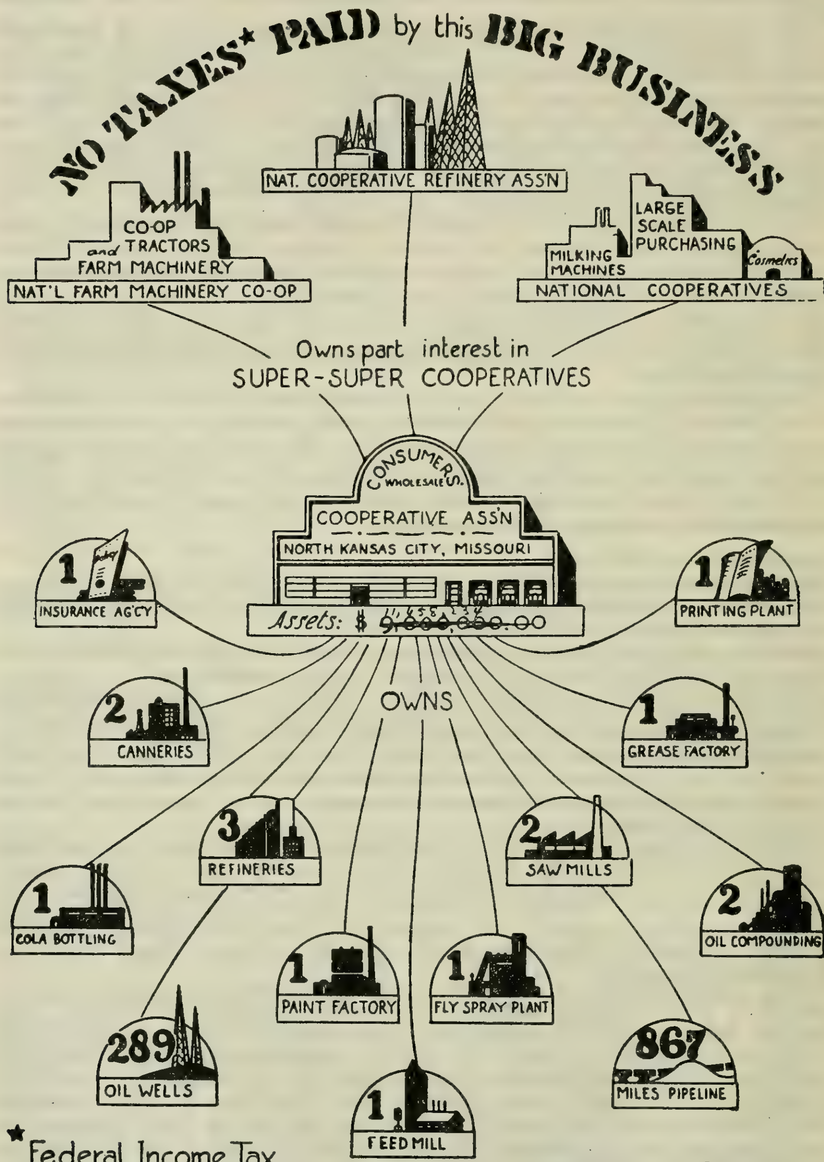

Chart by National Tax Equality Association

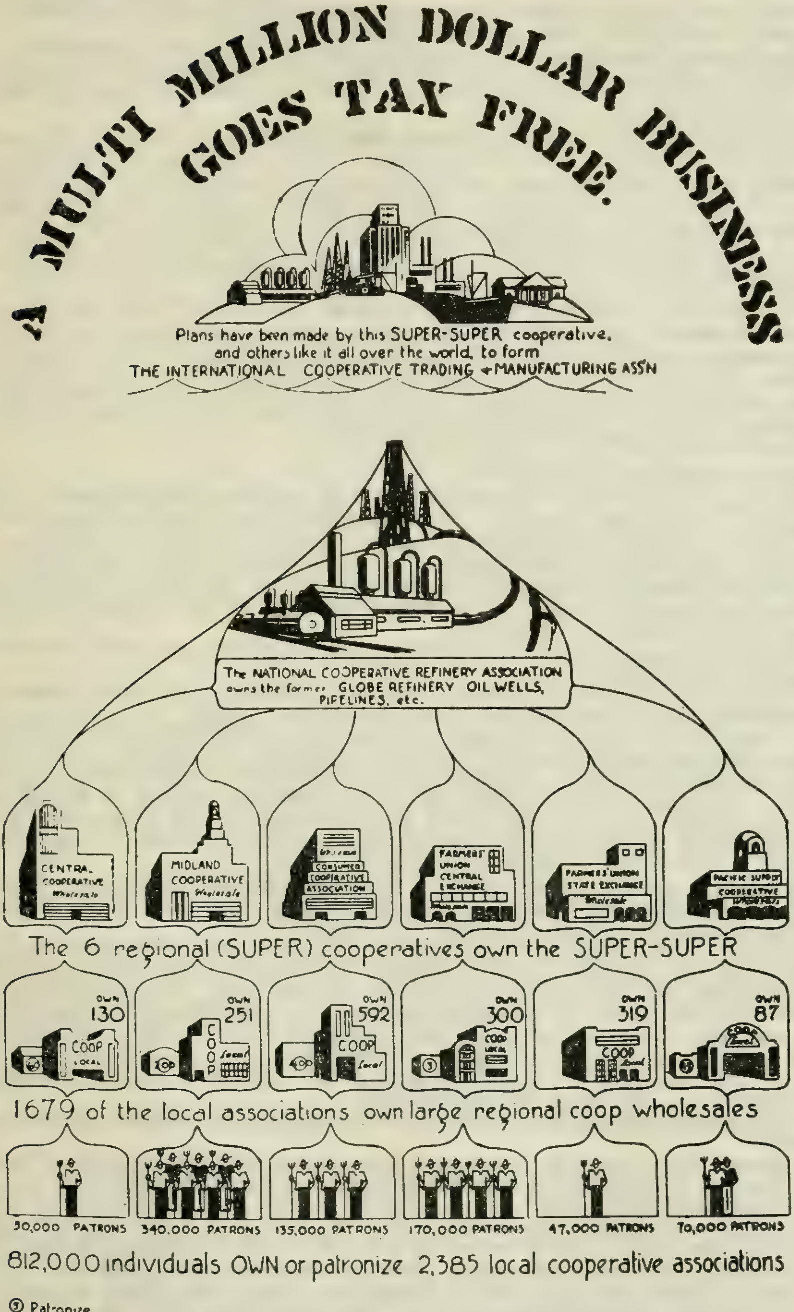

Chart by National Tax
Equality Association

running afoul of the Bureau of Internal Revenue rules and regulations. In passing, it should be recognized that this money is badly needed in the business in order to adequately finance many facilities and factories * * *."

The National Farm Machinery Cooperative, Inc., bought the Ohio Cultivator Co., of Bellevue, Ohio, in 1943 for about $1,000,000. The Ohio Cultivator Co., under its former ownership, had paid Federal taxes of nearly $200,000 yearly. It now has no such liability.

The taxes lost to Government through these exemptions increase the tax bill of all other taxpayers. Even the cooperative leaders recognize this and many believe that the tax loopholes should be closed. One national survey revealed that 60 out of every 100 farmers said they believed cooperatives should pay Federal income tax on all earnings, just like any other business. Fifty out of every one hundred active members of cooperatives concurred in this opinion—as a matter of fair play in business and as support of Government in paying for the war.

Congress, too, is giving heed to the problem. The House Ways and Means Committee wrote into the 1943 Revenue Act a provision requiring all tax-exempt organizations to file annually with the Treasury a statement of their financial affairs. "It is the intent of your committee," said the report, "to make a thorough study of the information contained in such returns with a view to closing this existing loophole and requiring the payment of tax and the protection of legitimate companies against this unfair competition."

What are "patronage dividends"?

The heart of the entire taxation problem as regarding cooperatives is the question of patronage dividends. The cooperatives argue that patronage dividends are not profits, or earnings, but simply "savings," refunds for initial overcharges. How sound is this contention? So that there may be not the slightest excuse for misunderstanding or misinterpretation on our part, let us review briefly the cooperative theory on patronage dividends as that theory is formulated by the cooperatives themselves.

The following quotation is taken from the current annual report of Consumers Cooperative Association:

"There is no law which specifically exempts a bona fide cooperative, whether agricultural or not, from paying a tax on patronage refunds. Yet no cooperative, agricultural or otherwise, pays a tax on money refunded to patrons, or on money allocated and earmarked for later distribution to patrons. It is only common sense and common law that money passed on by a cooperative to members, as an agent for the members, cannot be construed logically as income to the cooperative * * *. Since they are not income to the cooperative, but are accounted for in the tax returns of patrons who receive the refunds, they are not taxable in the hands of the cooperative * * *.

"Co-ops do not pay income taxes on patronage refunds, not because of any law, but because money passed on to members by a cooperative is not income to the cooperative and is so recognized by the courts." (16)

Further, so we cannot possibly misunderstand the cooperative position, we quote from the pamphlet An Industrialist Comments on the Attack Against Cooperatives, by Victor Emanuel, chairman of the board, the Aviation Corp. director of many other corporations and member of New York State Chamber of Commerce. This statement has been widely circulated by the cooperatives, and according to them "Mr. Emanuel has devoted a very considerable amount of his time and attention for many years to farm problems and farmer cooperatives" (17). Mr. Emanuel's statement is:

"The simplest explanation I can give of the function of a farmer cooperative follows:

" 'Brown owns a farm and gives his neighbor Jones, who likewise owns a farm and is going to town, $100 to purchase fertilizer for him at the same time Jones purchases some for himself. Jones returns $8.50, being the balance he has left over after purchasing these supplies, less a pro rata of expenses. No one can say that Jones made a profit out of the transaction which should be subject to income tax. He merely returned to Brown unexpended capital which had belonged to Brown during the entire transaction. Jones was simply his agent. In this analogy Jones takes the place of the cooperative which returns to its patron members overpayment of capital after giving them goods or services.' "

"* * * The cooperatives rebate the excess which they have collected after expenses. It seems almost impossible that anyone would confuse this use or call this sort of transaction a profit."

In connection with this statement and claim of the cooperatives, the following facts should be kept in mind:

1. Business profits are characteristically defined as the excess or surplus of the earnings of a business over the cost of operation.

2. In the case of corporations and cooperatives (and 80 percent of cooperatives are corporations), profits come from the identical activities of business in pooled, joint ventures.

3. Profits are earned by cooperatives or other corporations by the same process in that they are devices for pooling the capital of many individuals for the operation of a business.

4. Profits are earned through the identical processes of buying, selling, processing, servicing, or manufacturing or other activities.

5. Profits are the property of the owners of the business. The existence of a profit is not dependent on whether the owners are investors or patrons.

In this connection it is enlightening to quote the decision of the Appellate Court of Indiana (*Storen et al.* v. *Jasper County Farm Bureau Cooperative Assn.*, June 5, 1936):

"The profit or any gain made as the result of the carrying on of a business of buying and selling has in recent years, under both Federal and State net income-tax acts, been held to be income * * *. The difference in the cost of the appellee and its sales price to the purchaser was a profit, gain, or income and this inured to the benefit of the patrons of the appellee * * *. The appellee contends that this was a savings to the stockholders of the appellee and should not be classed as income. But this enhanced their total wealth, and whether it be called savings, gain, income, or by any other name, it still renders the appellee liable to the tax intended by the legislature."

This decision merely recognizes the fact that patronage dividends represent money earned by the same processes of buying, selling, and manufacture as are engaged in by any private corporation, partnership, or individual proprietorship. It is simply setting forth explicitly the basic logic that the taxability of earnings should be determined by the way those earnings are created, not by the disposition made of them.

But even under cooperative theory itself, a true rebate in the purchasing price of an article, or a true increase in the price at which farm products are sold, must be paid in cash and in a reasonable length of time. The accumulation of capital is not a reduction in price. There is a great difference between buying a gallon of gasoline for 20 cents, then getting an immediate cash rebate of 2 cents, and buying the same gallon but receiving a piece of paper signifying part ownership in a refinery. The ownership of a refinery cannot in any sense be considered as a reduction in price to the stockholders of an enterprise.

Such tax-exemption was never intended in the original legislation which makes it possible, and the legal acts of devising such exemption under the letter but not the intent of the law, we commonly call tax evasion.

One specific case will show how this works out in actual practice—the means taken by cooperatives to avoid paying patronage dividends in cash, but instead the common practice of the cooperative going through the legal motions of selling preferred stock or other evidences of equity in order to retain the cash as additional capital or reserves for the operation and expansion of the business. The following is a quotation from the Sixteenth Annual Report of Consumers Cooperative Association, for the year ending Aug. 31, 1944:

"Directors of CCA and subsidiaries are recommending to members that combined net savings (exclusive of the retail department) amounting to $1,517,707.59, be distributed in the following manner:

"1. The Cooperative Oil Producing Association shows net savings of $2,575.40 for the fiscal year ended August 31, 1944. It is recommended that 8 percent interest be paid on shares.

"2. The net savings of the Cooperative Pipe Line Association are $11,024.22. It is suggested that 10 percent be distributed to patrons' equity reserve; that 4 percent interest be paid on shares; and that the remainder, or $7,241.80, be declared as a deferred patronage refund to its only patron, the Cooperative Refinery Association.

"3. The net savings of the Cooperative Refinery Association, including the patronage refund from CPLA are $1,274,373.44. It is recommended that 10 percent of these savings be distributed to the patrons' equity reserve; that 4 percent interest be paid shares; and that the balance of $1,132,294.50 be declared as a deferred patronage refund to Consumers Cooperative Association.

"4. Including patronage refunds from its subsidiaries, along with its own net savings of $236,976.33 (exclusive of savings of the retail department), CCA has a total of $1,369,900.83 due its patrons. It is recommended that 16 percent of CCA's net savings be distributed to the patrons' equity reserve; that 4 percent interest be paid on common shares at the rate stated in the certificate on preferred shares bearing a fixed rate of interest, and 4 percent on preferred stock bearing no fixed rate of interest. Further, it is recommended that the balance of $1,130,454.19 be paid to shareholders to be converted to deferred patronage refund evidences of indebtedness to mature at the discretion of the board of directors, after deductions are made for membership interchange patronage refund of 5 percent on merchandise furnished to transient members."

This disposition of savings (profit) shows how Consumers Cooperative Association fails to interpret the term "patronage dividend" in its original and common-sense meaning, fails to distribute its profit in the form of cash rebate, but builds such profit back into its business under the device of "deferring" patronage dividends to some indefinite time (conceivably until even after the death of a patron) and making it impossible for patrons to convert these deferred dividends into cash except under authorization of the directors of the cooperative.

Remember, too, that CCA issues its 4 percent, noncumulative, nonvoting stock without either the scrutiny or the approval of SEC.

If we take the ratio of CCA's total profits from 1929 to 1943 ($2,797,693) to total "member equities" ($2,810,439.79) and concede that the entire amount of $653,701.35, represented by capital shares and memberships, was derived from the sale of stock and memberships, then at least $2,120,629.88, or 75.4 percent of its total net worth was acquired through retention of untaxed profits.

We thus see that the rapid growth and expansion of cooperatives in the petroleum industry do not represent the normal and healthy development of a movement in an equal competitive position with private enterprise, but is explainable chiefly in terms of (1) exemption from the payment of high wartime Federal income and excess-profits taxes, (2) the cooperative policy of disposing of patronage dividends in stock rather than in cash and thus (3) pyramiding cooperative capital structure at a rate impossible for private business.

The agent-principal thesis

Now let us examine in details the argument and example offered by Victor Emanuel, quoted earlier, to the effect that "cooperatives return to patron members overpayment of capital after giving them goods or services." This is the familiar case of Jones going to town and at the same time making a purchase for Brown, and returning to Brown the balance left over after the transaction.

The cooperative argument here is that it is only an agent remitting to its principals money which has come into its hands but which belongs to the principals. In such a case, then, the agent's activity is exclusively for the account and for the profit or loss, as the case may be, of its principals. If the agent sustains a loss, the principals are liable. Hence remittances made by such an agent to its principals are not patronage dividends at all, since only the money of the principals is involved. There can be no patronage dividends unless the payer remits funds to which it has legal title.

As a matter of fact, it is highly unusual to find any cooperative performing simply the function of an agency relationship. A fundamental element invariably absent is that of the continuing liability of the principals (members) in cases where the cooperative suffers losses in its operations. When a cooperative becomes involved in financial difficulties, the agency theory is abandoned and creditors of the cooperative are obliged to be content with the proceeds of realization of the assets. That is, as long as the cooperative prospers, the members protest that its assets belong to them and that its profits are made for their account, not for the account of the cooperative. But in times of financial difficulty, advantage is taken of the attribute of limited liability of the cooperative and its losses are conceded to be for its own account. The members have no more sense of responsibility for the creditors of their cooperative than have the holders of fully paid shares for creditors of their corporation when it goes into bankruptcy.

This Jones-Brown argument, then, is merely a cooperative "head-I-win, tails-you-lose" argument. A cooperative is either an agent or it is not. If it is, its status must be of a permanent and consistent character and must be established by the actual effect of its administration and operations. The mere fact that a cooperative is under obligation, express or implied, to make remittances to its members at some future date under certain circumstances, is not proof of its agency character. All relevant facts must be taken into consideration.

The relationship between a cooperative and its members is similar to that which exists between any joint stock company and its shareholders. The cooperative is engaged in an effort to make an over-all gain or profit for its members. It may have an agreement with its members to distribute or allocate such gain or profit to them. But the agreement relates to the profits of the cooperative, not to any loss which it may make or suffer for the account of its members respectively.

V. CONCLUSION

Tax-free cooperative corporations have become multi-million-dollar rivals of American private business. This rapid growth gives all American business and industry legitimate concern with the cooperative movement, its present status, its legal privileges, and its future program. The question of the legality or merit of cooperative enterprise is nowhere involved; the question of the legal preferential treatment of cooperatives, particularly in respect of the income-tax and excess-profits-tax exemption, is the sole issue. The following facts are clear:

1. By virtual subsidy effected through income-tax freedom for certain cooperatives, wide areas of private enterprise and free markets are being wiped out. The continuance of such tax inequality in the postwar period when business must pay a large share of the annual estimated $30,000,000,000 budget, can result in the eventual death of private enterprise.
2. National revenues to pay the $300,000,000,000 war debt and the constantly increasing expense of Government, are being depleted at a rate that in the opinion of many authorities forecasts the destruction of the Federal business-tax base.
3. It is generally claimed that a substantial reduction in the Federal business-tax rate could be achieved if cooperatives and other tax-exempt organizations were obliged to pay their equal share of the Federal tax load.
4. The existence of tax-privileged business corporations operating as cooperatives but performing all the functions of any other profit-making concern, is repugnant to the American conception of equality. The history of the legal favoritism of cooperatives is a long and significant one.
5. Nowhere is it indicated that Congress ever intended to confer upon cooperatives a legal advantage that would prove ruinous to private business. That advantage has accrued to cooperatives despite the spirit of the law which always was to assist the American farmer in his proper function. The American farmer is the Nation's most important capitalist—he has assets of $83,000,000,000 and he is now in danger of losing these, just as much as any other businessman, unless tax inequalities are corrected.
6. There is no doubt of the ability of cooperatives to pay their fair share of the tax load. Legitimate cooperative enterprise will not be crippled by their assuming their part of the tax burden. Cooperatives can enter any field of business endeavor they wish—marketing, oil-well drilling, refinery operation—but they should do so under the same competitive rules as private business.

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The CHAIRMAN. Mr. England, what is your pleasure now?

Mr. ENGLAND. Mr. Chairman, whatever is the pleasure of the committee.

The CHAIRMAN. You may proceed.

STATEMENT OF WILLIAM H. ENGLAND, CHIEF ECONOMIST, FEDERAL TRADE COMMISSION

Mr. ENGLAND. Mr. Chairman, my name is William H. England. I am chief economist for the Federal Trade Commission.

Yesterday I made a comment, when you told about the ice cream situation in Wyoming, that it was a good story. The thing I had in the back of my mind is this, that I have heard stories similar to that from many people in industry. As we come out of this war, with supply and demand dislocated, the impact on small business is going to be very severe in many industries.

The CHAIRMAN. Have you reached any conclusion as to what should be done about it? It is really a very serious problem.

Mr. ENGLAND. No, sir; I have not.

Senator MOORE. It really is serious.

Mr. ENGLAND. Senator Moore, you are right. It always has been a very serious problem.

Senator MOORE. Yes.

Mr. ENGLAND. And there are certain concerns now that were making an important contribution to the war effort that are finding themselves in great difficulty to get raw materials. It is a very serious problem, a problem that the whole Government should be considering.

My interest in connection with the petroleum industry began in 1914 when the Bureau of Corporations was making a study of pipe-line transportation of petroleum. Through casualties in our organization, it fell upon me to finish the report. That report showed the comparative low cost of pipe-line transportation, the comparative high charges for pipe-line transportation, and the large profits of pipe-line operators, and it led the Commission to make certain quite definite conclusions.

It may be well to repeat the definition of an independent company given by Mr. Fayette B. Dow in his interesting statement presented to the committee last week. Mr. Dow stated:

> Independent, as the oil industry understands the word, means a company that is relatively small and largely unintegrated. The "majors" are to a substantial

degree integrated—that is, they are engaged in production, refining, transportation, and marketing. Some of the independents have a partial degree of integration.

The other day, Mr. Chairman, you made inquiry regarding the relative size of important companies about 1907 when the Department of Justice was conducting its antitrust suits against the Standard Oil Co. which led to the dissolution decree of 1911.

Among the companies that today are rated as "majors," four, at least, were rather small independents at that time, namely, The Texas Co., Gulf Oil Corp., Sun Oil Co., and Pure Oil Co. The first two had production and refineries in Oklahoma and Texas; and the last two, refineries on the Atlantic seaboard.

The following statements show a highly interesting picture of the growth for Standard Oil Co. (New Jersey) and the four predissolution independent competitors. I did not have the information for the Sun Oil, so I called Mr. Pew on the telephone, and within an hour he had directed Mr. Dunlop to phone me the information, which was confirmed by letter this morning. Mr. Chairman, I think you would be rather interested in this. Mr. Pew said, "My father built our refinery at Marcus Hook in the days when freight-rate discrimination, rebates, special rates and so forth, were practically putting independents out of business." He had that refinery built there at that time so the Sun Oil Co. could obtain crude that was being produced in Oklahoma and Texas, sent by pipe line to the Gulf, and there they could pick it up by the lowest method of transportation, namely, tank steamer.

(The statements referred to are as follows:)

Capitalization of the Sun Oil Co., 1907, 1911, 1921, and 1945

	Dec. 31, 1945	Dec. 31, 1921	Apr. 30, 1911	Apr. 30, 1907
Common stock	$117, 814, 256	$6, 890, 000	$4. 998, 320	$2, 800, 000
Preferred stock	9, 319, 700			
Earned surplus	26, 325, 862	19, 501, 305	1, 056, 597	312, 189
Contingency reserve	3, 496, 520			
Total invested capital	156, 956, 338	26, 391, 305	6, 054, 917	3, 112, 189
Debenture 2¼s, 1951	4, 000. 000			
Funded debt		10, 293, 000		
Total capitalization	160, 956, 438	36, 684, 305	6, 054, 917	3, 112, 189

Capitalization of Gulf Oil Corp., 1907, 1911, and 1944

	Dec. 31, 1944	Dec. 31, 1911	Dec. 31, 1907
Capital stock	$226, 905, 050	$11, 077, 300	$10, 611, 300
Capital surplus	17, 146, 573		
Earned surplus	164, 108, 083	7, 756, 795	685, 633
Reserve for contingencies	16, 279, 229		
Total invested capital	424, 438, 935	18, 834, 095	11, 296, 933
Funded debt	48, 443, 118	6, 529, 000	7, 475, 000
Total capitalization	472, 882, 053	25, 363, 095	18, 771, 933

Capitalization of the Texas Co., 1908, 1911, and 1945

	Dec. 31, 1945	June 30, 1911	June 30, 1908
Capital stock	$281, 116, 500	$27, 000, 000	$11, 000, 000
Capital surplus	77, 669, 213		
Earned surplus	239, 132, 646	1, 602, 995	4, 000, 000
Contingency reserves	26, 000, 000		
Total invested capital	623, 918, 359	28, 602, 995	15, 000, 000
Debenture, 3's, 1959	40, 000, 000		
Debenture, 3's, 1965	60, 000, 000		
3½ percent mortgage notes	11, 986, 196		
Debenture, 6's, 1931		12, 000, 000	
6 percent gold notes		3, 000, 000	
Total capitalization	735, 904, 555	43, 602, 995	15, 000, 000

Capitalization of the Standard Oil Co. of New Jersey, 1906 and 1944

	Dec. 31, 1944	Dec. 31, 1906
Capital stock	$683, 343, 550	$98, 338, 382
Capital surplus	70, 946, 651	
Appropriated surplus	5, 425, 985	
Earned surplus	684, 935, 642	261, 061, 811
Subsidiary preferred and common stocks held by public	262, 906, 456	
Reserve for wartime contingencies	25, 000, 000	
Contingency reserve for foreign investments	105, 000, 000	
Total invested capital	1, 837, 558, 284	359, 400, 193
Long-term debt	214, 855, 260	
Total capitalization	2, 052, 413, 544	359, 400, 193

Capitalization of Pure Oil Co., 1911 and 1945

	Dec. 31, 1945	Dec. 31, 1911
Common stock	$39, 820, 310	$4, 424, 610
Preferred stock	44, 243, 400	971, 800
Minority interest	2, 536, 388	
Contingency reserve	3, 400, 000	
Paid-in surplus	19, 038, 823	
Earned surplus	53, 055, 262	4, 941, 522
Total invested capital	162, 094, 183	10, 337, 932
Notes payable	29, 800, 000	
Total capitalization	191, 894, 183	10, 337, 932

Mr. ENGLAND. In my prepared statement I have covered the position of the independent in each branch of the industry for different years, mostly prior to World War II, to show the importance of the independents, at different dates, in production, pipe-line transportation, refining, wholesale and retail marketing. The following statement shows investments, sales, and profits for petroleum producers by size groups:

Petroleum (crude) producing corporations—Summary of investment, sales, and profits for 19 companies, by size groups, for the year 1940

[Add 000 to amounts]

Asset groups	Number of companies	Aggregate total investment	Aggregate sales	Aggregate net profit before debt interest and income taxes	Aggregate profit after income taxes but before deducting debt interest	Average rate of return: Before income taxes and debt interest	Average rate of return: After income taxes but before deducting debt interest
		Amount	*Amount*	*Amount*	*Amount*	*Percent*	*Percent*
Under $2,000	3	$2,904	$1,138	[1] $57	[1] $58	[1] 1.96	[1] 2.00
$2,000 to $4,000	3	7,186	5,314	313	257	4.36	3.58
$4,000 to $10,000	6	38,043	11,558	1,034	826	2.72	2.17
$10,000 to $20,000	4	53,619	27,908	5,372	4,986	10.02	9.30
Over $20,000	3	118,419	42,272	6,193	5,881	5.23	4.97
Total	19	220,171	88,190	12,855	11,892	5.84	5.40

[1] Denotes loss.

The CHAIRMAN. What is the source of those figures in the last table?

Mr. ENGLAND. The source of these figures, Mr. Chairman, is from the Commission's Industrial Corporation Report—Petroleum (Crude) Producing Corporations, February 17, 1943.

The CHAIRMAN. Before you go into another subject, I want to make this comment, that the last table which you put in the record on the average rate of return of producing corporations was for the year 1940.

Mr. ENGLAND. That is correct.

The CHAIRMAN. So that it shows a condition which existed before OPA.

Mr. ENGLAND. It shows a condition, Mr. Chairman, which existed before OPA, and it shows a condition for one of our more prosperous years, 1940.

The CHAIRMAN. The situation there described was that the small company, that is to say, in the range of less than $2,000,000 assets, was losing money.

Mr. ENGLAND. That is correct, sir.

The CHAIRMAN. That the corporations in the range of assets from $10,000,000 to $20,000,000 made the largest amount by far.

Mr. ENGLAND. Correct.

The CHAIRMAN. Their average rate of return before income taxes and debt interest was 10.02 percent.

Mr. ENGLAND. That is right.

The CHAIRMAN. As against 2.72 percent for the group between $4,000,000 and $10,000,000, and 4.36 percent for the group between $2,000,000 and $4,000,000.

Mr. ENGLAND. That is correct.

The CHAIRMAN. Whereas, when we go above $20,000,000 in assets, again the return falls. The big companies having over $20,000,000 had an average rate of return of 5.23 percent before income taxes and debt interest. That would seem to indicate that there is a point at which a producing company can be too small for a profit——

Mr. England. That is correct.

The Chairman. And that there is a point at which a company may grow to such size that its rate of return is likely to fall off.

Mr. England. Mr. Chairman, I think we can illustrate it by this: The average production of wheat in the United States normally, say, is in the neighborhood of 20 bushels per acre. In certain favored places it may be 40 bushels. Now, farmers in the 40-bushel area probably will be quite prosperous, and those in the less-than-average area probably will not be. Now, the big company is like the average. The big company, with its wide distribution of producing properties, is apt to share the production and prices that prevail on the average in the United States.

Mr. Fraser. Could you say that in 1940, a war year in Europe, perhaps these largest companies suffered in their foreign operations, so that their earnings were cut down disproportionately, and that 1940 is not perhaps a good year to compare the small companies with the largest companies?

Mr. England. I am very glad you asked that question, because that shows that I have not made myself clear. These companies were engaged only in production, they were not engaged in foreign operations. These are strictly domestic producing companies. Now, I have a statement here that includes the integrated companies you have in mind, that engaged in production, refining, domestic and foreign marketing.

Mr. Fraser. These companies in the table were producing in foreign fields, were they not?

Mr. England. No, sir; that is all domestic production. I am very glad you asked that question. (Continuing with statement:)

The Independent Petroleum Companies

ADVANTAGES OF LARGE COMPANIES

The Federal Trade Commission and its predecessor, the Bureau of Corporations, has studied the degree of concentration and the marketing practices existing in the petroleum industry, covering a period of nearly 45 years. Throughout this period the most important advantages possessed by the dominant companies have been: (1) Control of cheap transportation; (2) extensive marketing organizations; and (3) possession of great wealth. These three advantages have, particularly in certain periods, made the existence of the independent company a precarious one. This was even true of a number of the companies now classed as "major oil companies," such as the Pure Oil Co., the Sun Oil Co., the Gulf Oil Co., and the Texas Co. The latter today is the only company distributing gasoline in each of the States and in the District of Columbia.

For many years the Federal Trade Commission made frequent economic inquiries into the operations of various branches of the petroleum industry—either at the direction of the Congress or of the President. These directions stemmed from complaints of producers, independent refiners, or independent marketers. Some were Nationwide while others were confined to a particular section of the country. Among the more important were:

Pipe-Line Transportation of Petroleum (1916)—covering investments, costs, profits, and restrictive practices unfair to producers and small refiners, some of which practices were later remedied by the Interstate Commerce Commission.

Foreign Ownership in Petroleum—covering the extensive interests of the Dutch-Shell combination in the United States and abroad and developing discriminations against our oil companies in some foreign countries.

Price of Gasoline in 1915—which disclosed the continuation of Standard Oil domination and the division of marketing territories of the United States among the former Standard subsidiaries.

Gasoline Prices in 1924—in which it was shown, among other things, that the practice of gasoline marketing companies in "following the leader" prevented price reductions of independent refiners from being passed on to gasoline consumers,[1] until following August 7, 1923, when the State Highways Commission of South Dakota sold gasoline to the public at 16 cents per gallon, a reduction of 10.6 cents per gallon.

The Petroleum Industry—Prices, Profits, and Competition, 1928—which first reported a marked decline in the importance of the separated Standard Oil companies to about 42 percent of refinery runs and of six large independents to 25 percent of the total; the gradual and rather important dispersal of common-stock ownership of Standard companies; the development of a "patent pool" among holders, of "cracking processes"; the continued price leadership of Standard companies, except on rare occasions; the beginning of limited retail competition among Standard companies; continued high profits of crude pipe-line companies; and important mergers involving mostly former Standard companies.

Regional reports were made covering the Pacific Coast States, Wyoming, and Montana, the Panhandle of Texas, and the Healdton field in Oklahoma. In the Pacific coast reports the cost of producing crude petroleum in different fields and factors influencing costs were first developed.

Distribution Methods and Costs, pt. IV, Petroleum Products, Automobiles, Rubber Tires and Tubes, Electrical Household Appliances, and Agricultural Implements, 1944—in which the development of cooperative ownership of from 2 to as many as 8 different companies in the building of crude and refined products pipe lines was shown for 7 pipe lines; the preponderance of crude petroleum shipments, 71.9 percent by pipe line in 1939 compared with 21.7 percent by tankers and 3.4 percent by tank car; large increase in pipe-line transportation of refined products (largely gasoline) by the increase in such mileage from 544 miles in 1930 to 5,220 in 1939, and the quantity from 6,806,831 barrels in 1930 to 88,428,103 in 1939, and so forth. These economic studies and facts developed in a large number of legal complaints furnished the Federal Trade Commission's background for an understanding of the problems of independent petroleum companies. The problems of the independent petroleum companies are the problems of small business in the petroleum industry.

[1] Congressional Record, February 28, 1925, p. 4983 et seq.

IMPORTANT ECONOMIC PROBLEMS OF INDEPENDENTS

European visitors from Belgium, Holland, Switzerland, France, et cetera, are impressed with the size of the United States. The size of this country makes the transportation of crude petroleum and refined petroleum products a problem of first magnitude. This problem is made more burdensome for the smaller independent producer, refiner, and marketer because our most abundant sources of crude petroleum are far from the centers of greatest consumption; consequently, companies of small wealth must sell their products locally or ship by the most expensive method of transportation. From the early days of the industry independents have struggled against transportation handicaps. The producer who sells his crude from the tank on his lease frequently has only one marketer to bid for his product; the smaller refiner must decide whether he will build his plant near the source of supply and pay relatively low transportation charges on his crude and high rates on his refined products or vice versa.

A quotation from a letter of April 27, 1945, written to Chairman O'Mahoney by Commissioner Ewin L. Davis, then Chairman of the Federal Trade Commission, sets forth some important facts concerning the plight of the independent refiner and marketer, as follows:

* * * An important factor constantly working against concentration which, but for their control over transportation, would have made the petroleum industry one of our more highly competitive ones, is the fact that individuals and small corporations have always actively engaged in prospecting for new supplies. Their efforts have sometimes proved successful. In the past, directions of the Congress to the Federal Trade Commission to determine the facts with regard to charges of independent producers that large purchasing companies controlling the pipe lines from new oil fields have offered them unremunerative prices were rather frequent. Control of transportation facilities from oil fields to refineries, and, more recently, control of gasoline pipe lines and tank steamers, have given companies owning them tremendous advantages over producers, refiners, and marketers not having the use of such facilities, or only at high transportation charges.

A statement of the important findings in comprehensive inquiries may be helpful to your committee in dealing with current problems.

On May 20, 1907, the Honorable Herbert Knox Smith, Commissioner of Corporations, reporting through Honorable Oscar S. Straus, Secretary of Commerce and Labor, made a report to President Theodore Roosevelt, in which he stated in reference to the Standard Oil Co. (New Jersey):

"It is of the utmost importance to indicate clearly those fundamental facts that form the basis of the Standard's power. The monopoly of this concern has never rested on ownership of supply of crude oil. Not over one-sixth of the total production of crude in the country in 1905 came from wells owned by the Standard interests. It cannot be too strongly emphasized that its growth and present power rests primarily on the control of transportation facilities in one form or another. Additional means of domination have been found in local price discrimination and unfair competitive methods in the sale of products, as well as the elimination of the jobber; but throughout its entire history the factor of transportation has been the keystone of its success.

"The scandalous railway discriminations obtained by the Standard in its earlier years as against its competitors did more than all other causes together to establish it in its controlling position. Later, when the rebate, per se (that is, the actual, physical repayment of part of the freight rate), was substantially abandoned, the Standard was able, by compelling the cooperation of the railroads, to establish in place thereof a system of secret or open discrimination in rates in its own favor, covering almost the entire country and of such a nature that throughout large sections it could sell and make a profit on oil at prices which left no profit for competitors. * * *

"The economy of pipe-line transportation as compared with that by rail is a vital consideration. A refiner wholly dependent on railroads for his crude sup-

ply cannot hope to become a factor of much importance in the industry. This imperative condition of rail transportation costs has fixed the location of most independent refineries near the oil fields and has restricted most of their sales of the refined products to the comparatively small adjoining sections. On the other hand, the Standard's comprehensive pipe-line system has given it the choice of strategic positions for its refineries near to the largest distributing and exporting centers of the country" (Petroleum Industry, Part I, Position of the Standard Oil Company in the Petroleum Industry, pp. XVIII–XIX).

Notwithstanding passage of legislation by the Congress designed to remove this advantage in transportation costs and of the Standard dissolution decree effective in December 1911, the Federal Trade Commission, in its first economic report, informed the Congress that the cost of pipe-line transportation (including an allowance of 6 percent on net investment), from the midcontinent to the vicinity of Chicago, was 14.21 cents per barrel of crude oil compared with pipeline rates of 42 cents per barrel of crude oil and 62.2 cents rail charges. It was also found that the then (1916) existing pipe-line tariffs required such large minimum shipments and other onerous shipping conditions that independent refiners were unable to use this cheap and advantageous method of transportation. In its report to the Congress on Pipe-Line Transportation of Petroleum, made February 28, 1916, the Commission (p. XXXII) stated:

"The conclusion is evident that the prosperity and perhaps even the existence of many small concerns depend on lower pipe-line rates and reasonable minimum shipments."

In recent years, as a result of improvements in pipe-line construction, the transportation of gasoline and other refined products by pipe-line has further increased the competitive advantages of companies financially able to provide themselves with pipe lines and tank steamers. In its recent report on Distribution Methods and Costs, part IV, this Commission found that for the 3 years 1937-39, the cost of pipe transportation of gasoline by pipeline for 8 companies in 1937 and 10 in 1938 and 1939 ranged from 5.11 cents to 5.24 cents per barrel for 100 miles. At that time, pipe-line rates approximated the rail rates particularly from the Mid-Continent field to Midwestern points, but for movements from the eastern seaboard, having the advantage of water transportation from Gulf ports, to inland points, from approximately one-third to one-half the rail rates. Effective June 11, 1941, the Interstate Commerce Commission ordered a reduction in both pipe-line and rail rates. In the case of rail charges the reductions were substantial, and in the case of pipe-line rates they were very large. For example, from Tulsa, Okla., to Chicago where rail and pipe-line rates had been the same, pipe-line charges were reduced from $1.11 to 67 cents per barrel and rail rates from $1.11 to $1.

Prior to the pipe-line rate reductions of 1941, the average rate of return on the investment for 8 gasoline pipe-line companies for the years 1935–37, and for 10 companies in 1938 and 1939, were as follows:

	Average rate of return on investment (percent)
1935	28.19
1936	30.42
1937	35.71
1938	36.80
1939	38.90

On January 1, 1938, 20 large oil companies owned 71.4 percent of the pipe-line mileage for crude-oil pipe lines and 17 companies owned 94.2 percent of the gasoline pipe-line mileage of the entire country. As of January 1, 1941, 15 major oil companies owned 81.54 percent of the total cargo capacity of tankers used to transport crude petroleum and its products. According to the testimony of J. Howard Pew, president of the Sun Oil Co., the relative cost per ton-mile by different transportation facilities were as follows:

Transportation facility:	*Cost per mile in cents*
Tankers and barges	0.063
Crude oil lines	.447
Gasoline pipe lines	.527
Railroad	1.640
Truck	4.873

RELATIVE POSITION OF INDEPENDENTS IN DIFFERENT BRANCHES OF THE PETROLEUM INDUSTRY

A number of companies that were termed "independents" 15 or 20 years ago are usually referred to today as "majors." For example, the Texas Co., which was a comparatively small independent company prior to 1910, now distributes gasoline over a larger territory than any other company, sells in each State and the District of Columbia, and was the largest distributor of gasoline in 1938 in the Texas-Oklahoma territory; also Pure Oil Co., Sun Oil Co., and Gulf Oil Corp. were comparatively small independents at that time and today are classed as "majors."

PRODUCTION OF CRUDE PETROLEUM

Independent companies are far more important in the producing branch of the industry than in refining or marketing. In 1938, eight Standard companies had 22 percent of the country's production, and 11 other "major" companies produced a little over 25 percent, leaving 53 percent for all other (5,292) corporations in 1938, and the hundreds of unincorporated small operations. In 1940, in addition to the many hundreds of individuals who own oil wells there were 4,444 corporations engaged in producing crude petroleum and natural gas. Of this number 1,813, or 40 percent, reported net income, and 2,631, or 60 percent, reported no net income or losses. The annual sales of the corporations having a profit averaged $186,300, and their average net profits were $38,290, while the 60 percent reporting losses had average annual sales of $86,500 and average losses of $22,400. On a consolidated basis, i. e., deducting losses from profits, the 4,444 corporations had net profits of only $10,512,000 in 1940, an unusually prosperous prewar year, or an average of $2,366 per corporation. The showing for 1940 was more favorable than for other recent years, whereas 40 percent of all producing companies reported profits in 1940, only 33.8 percent had profits in 1939, and 37 percent in 1938. Moreover, the number of active corporations engaged in producing crude petroleum decreased from 5,311 in 1938, to 4,444 in 1940, a decrease of 18 percent.

PETROLEUM PIPE LINES

Nine standard companies owned over 32 percent of the crude petroleum pipe lines in 1938 and nearly 40 percent of the refined products pipe-line mileage. Twelve other "major" companies had 39.7 percent, and 54.6 percent of the gasoline pipe-line mileage. This left approximately 28 percent of the crude mileage and less than 6 percent of the refined products pipe-line mileage for all of the smaller independents for their 53 percent of crude production, and their 17 percent of refinery operations.

WATER TRANSPORTATION

As already stated, shipment of crude petroleum and refined petroleum products by water is far cheaper than even by pipe lines. Whereas, because of lower cost of transportation the overland move-

ment of crude petroleum and refined petroleum products has been primarily by pipe line in preference to rail, the transportation by water, or a combination of pipe-line and water transportation, has been used wherever feasible for shipment from production areas to refineries located near large consuming centers of refined products. Often such shipments have been in such combination from producing fields hundreds of miles from Gulf ports and thence by coastwise tankers to North Atlantic ports. For example, from 1930 to 1939 the proportion so shipped ranged from about 49 to 57 percent.

Just prior to World War II, tanker rates for light crude petroleum shipments, from the Gulf to North Atlantic ports, fluctuated from a low of 15 cents per barrel in 1939 to a high of 59 cents per barrel at the close of 1940, with an average of about 22.9 cents a barrel for 1939 and 40.7 cents in 1940. The continued high tanker rates during 1940 resulted in resumption of the cross-country movement of crude petroleum from Mid-Continent oil fields to the eastern seaboard. For example—

> * * * the pipe-line rate from Cushing, Okla., to Philadelphia, at the end of 1940, was 57 cents per barrel compared with a combined rate of 84 cents for a combination pipe line-tanker movement (25 cents a barrel for the pipe-line movement from Cushing to a Gulf port and 59 cents a barrel for the tanker movement from the Gulf port to Philadelphia). As Gulf coast and Mid-Continent crude constituted 82 percent of total runs of crude petroleum to stills in east coast refineries during 1939, the most economical method of transportation was an important factor. However, most of the coastwise tankers were owned by the major oil companies and therefore the higher tanker rates would affect directly only those companies chartering tankers.[1]
>
> * * * It is evident that large eastern refining companies which owned and operated tankers possessed a distinct advantage in transportation cost over competitors who depended on chartered tankers or other methods of transporting crude petroleum and its products to the Atlantic seaboard whenever there was a sharp advance in rates for chartered tonnage.[1]
>
> Two principal factors tend to account for the location of important refineries near large consuming centers rather than in crude oil producing areas. The first is that a long haul of crude oil by water or by pipe line is cheaper than a long haul by rail of either crude petroleum or its refined products. The second is the necessity of marketing large volumes of byproducts resulting from technological developments in refining gasoline. Consequently, many large refineries are strategically located at or near large consumption centers, especially on the Atlantic coast, on the Great Lakes, or on important inland waterways rather than at or near the constantly shifting crude oil producing areas. The transportation advantages of refineries so located has tended to limit the markets of producing-area refineries to areas within which the latter's transportation costs for refined products are not materially greater than the sum of back-haul pipeline or water transportation of crude oil plus the back-haul transportation cost for refined products from consumption-area refineries.[2]

REFINERY OPERATIONS

Eight Standard companies ran about 40 percent of the crude oil refinery runs in 1938 and 11 other major companies approximately 42.5 percent. This left about 17 percent for all other companies.

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[1] Federal Trade Commission Report on Distribution Methods and Costs, Part IV—Petroleum Products, Automobiles, Rubber Tires, Electrical Household Appliances, and Agricultural Implements, p. 36.

[2] *Ibid*, p. 37.

DECLINE IN IMPORTANCE OF INDEPENDENT MARKETERS

There was marked decline in the proportion of gasoline sold by independent marketers from 1926 to 1938, as shown by the following tabulation:

Marketing territory	Major companies				Independents	
	1938		1926		1938, percent	1926, percent
	Number	Percent	Number	Percent		
Socony-Vacuum	11	90.50	7	78.3	9.50	21.70
Standard Oil Co. (New Jersey)	13	95.02	7	88.6	4.98	11.40
Atlantic Refining Co	13	94.49	6	84.9	5.51	15.10
Standard Oil Co. (Ohio)	12	80.78	6	72.4	19.22	27.60
Standard Oil Co. (Indiana)	14	76.01	6	62.9	23.99	37.10
Standard Oil Co. (Kentucky)	10	90.11	6	79.3	9.89	20.70
Standard Oil Co. of Louisiana	11	88.97	6	67.6	11.03	32.40
Magnolia Petroleum Co	12	70.02	4	52.5	29.98	47.50
Standard Oil Co. (Nebraska)	10	73.89	6	57.5	26.11	42.50
Continental Oil Co	10	80.12	4	76.7	19.88	23.30
Standard Oil Co. of California	7	80.04	6	83.2	19.96	16.80

The companies classed as "majors" marketed 1 percent or more of the gasoline sold in each of the 11 marketing territories. In general, the independents experienced smaller losses in territories contiguous to crude petroleum production, and in one area, namely, the Pacific Coast States, gained both in the quantity sold and in the proportion of total sales. In Standard Oil Co. (New Jersey), and Atlantic Refining Co. territories their proportion of the total was reduced to 5.51 percent and 4.98 percent, respectively. In the Socony Vacuum Oil Co., Atlantic Refining Co., Standard Oil Co. (Kentucky), Standard Oil Co. of Louisiana, and Standard Oil Co. (Nebraska), the quantity sold by independents in 1938 was also less than 1926, and in the Standard Oil Co. (New Jersey) territory the increase was only 706 barrels out of an increase for the territory of 32,230,429 barrels.

From 1926 to 1938 the proportion of the companies selling 1 percent or more of the gasoline increased from 73.02 percent of the United States total, to 79.9 percent, or nearly 7 points percent, while the proportion for all other marketers decreased from 26.98 percent to 20.01 percent.

The CHAIRMAN. This emphasizes the point made by Mr. Dow.

Mr. ENGLAND. Exactly.

The CHAIRMAN. That non-Standard units—that is to say, units which were independent of the Standard—became "majors" in the course of years.

Mr. ENGLAND. That is correct. Another factor, Mr. Chairman, that Mr. Dow did not touch on, is the fact that Standard companies have gone into territories that formerly they did not sell in. [Resuming:]

CHANGES IN MARKETING OPERATIONS IN DIFFERENT AREAS

From 1926 to 1938 there was a marked change in the proportion of gasoline sold by the large companies individually, in each of the 11 marketing territories in which the Standard Oil Co. (New Jersey) or one of its subsidiaries held a dominating position prior to the

Standard Oil Co. dissolution. Down through 1926 a former Standard company remained the largest seller and the market leader in each territory, but by 1938 there was a marked change. For example, Socony-Vacuum Oil Co. had 46.1 percent of sales in its territory in 1926 and 24.28 percent in 1938; Standard Oil Co. (New Jersey) 43.2 percent in its territory in 1926 and 28.26 percent in 1938; Atlantic Refining Co., 44.5 percent in 1926 and 21.89 percent in 1938; Standard Oil Co. (Ohio), 37.6 percent in 1926 and 23.92 in 1938; Standard Oil of Indiana, 35.5 percent in 1926 and 20.05 in 1938; Standard of Kentucky, 33.3 percent in 1926 and 23.76 in 1938; Standard of Louisiana, 35.5 percent in 1926 and 24.58 percent in 1938; Magnolia Petroleum Co., 18.1 in 1926 and 13.03 percent in 1938; Standard of Nebraska, 23.6 percent in 1926 and 9.45 in 1938; Continental Oil Co., 47.2 percent in 1926 and 18.04 in 1938; and Standard Oil Co. of California, 28.7 percent in 1926 and 17.75 in 1938. In every case these percentages were on a larger volume in 1938 than in 1926; and, except on the Pacific coast, the increase went to other major marketers that had extended their operations territorily.

For example, eight major companies extended their marketing activities to the territory formerly dominated by Standard Oil Company (Indiana) during the 13-year period 1926 to 1938. Meanwhile, Standard Oil Company (Indiana) extended its gasoline sales to new territories such as that of Socony-Vacuum Oil Co., Standard Oil Co. (New Jersey), Atlantic Refining Co.; Standard Oil Co (Ohio); Standard Oil Co. (Kentucky); Standard Oil Co. (Louisiana); Magnolia Petroleum Co.; Standard Oil Co. of Nebraska; and Continental Oil Co.—in fact, into each of the marketing areas except on the Pacific coast. Its sales outside of its former territory were greater than within, 28,404,969 barrels compared with 19,858,976 barrels.

DISTRIBUTION OF PETROLEUM PRODUCTS BY WHOLESALE COOPERATIVES

A rather recent development in the distribution of refined petroleum is the wholesale cooperative. Coinciding with the rapid increase in the use of petroleum power-driven farm machinery, during the period 1929–39, the number of wholesale cooperatives handling petroleum products increased from 8 to 23 and their sales increased sevenfold. In 1939 the value of their petroleum sales aggregated approximately $26,000,000 compared with a national total of $3,807,908,000 for the 30,825 bulk stations in the United States, or less than seven-tenths of 1 percent.[1]

Wholesale cooperatives are organized generally on a regional basis, including one or more states, and represent the central purchasing organization for local member cooperatives. It is estimated that there were about 1,400 local retail petroleum cooperative associations at the end of 1939. Most of the regional cooperatives furnish central warehousing facilities, four wholesale cooperatives also manufacture lubricating oils and greases, and two operate oil refineries supplying their member associations with gasoline, kerosene, tractor fuel, and fuel oils.

RETAIL DISTRIBUTION

According to the Bureau of the Census of the United States Department of Commerce there were 241,858 gasoline retail service

[1] Federal Trade Commission Report on Distribution Methods and Costs, Part IV—Petroleum Products, Automobiles, Rubber Tires, Electrical Household Appliances, and Agricultural Implements, p. 61.

stations in the United States in 1939, which was a gain of 99.04 percent over 1929; the value of their sales increased from $1,787,423,000 in 1929, to $2,822,495,000 in 1939, or 57.91 percent. In 1938, the last year for which information is available, 18 major oil companies operated 69,666 service stations, or about 28.8 percent of the total. It seems probable there was little change in 1939.

In 1939 there were 1,962 corporations engaged in operating service stations that reported to the United States Bureau of Internal Revenue. This would indicate that by far the greater number are operated by individuals, or partnerships. Of the 1,962, only 669, or 34.1 percent, reported a profit and 1,293, or 65.9 percent, reported no profit or deficits. The results for 1940, an unusually prosperous peacetime year, were 1,009, or 43.7 percent, reporting profits, and 1,297, or 56.3 percent, reporting no profit or losses. In the more prosperous year 1940 the average profit reported by the companies reporting a profit was $9,193, and the average losses of the 56.3 percent reporting no profit or deficits was $1,380. In 1939 the averages were $11,345 profit for 34.1 percent reporting profits and the average loss $1,390 for those reporting no profit or losses.

The CHAIRMAN. In the previous paragraph you gave a comparison of the number of stations, retail service stations, in 1929 and in 1939.

Mr. ENGLAND. Yes, sir.

The CHAIRMAN. Then, as of 1938, you gave us the number of service stations operated by major oil companies and the percentage of the total.

Mr. ENGLAND. That is correct.

The CHAIRMAN. But there is no comparable figure for 1929.

Mr. ENGLAND. 1939?

The CHAIRMAN. No; there is no comparable figure for 1929. You have the comparison above, you see.

Mr. ENGLAND. Mr. Chairman, I may be able to get that for 1915 and possibly 1926.

The CHAIRMAN. In other words, you show that there was a total over-all gain of 99.04 percent of service stations in the United States in that 10-year period.

Mr. ENGLAND. That is correct.

The CHAIRMAN. But there is no means of telling what the gain of the major oil companies was in that period.

Mr. ENGLAND. That is correct. I overlooked that. Possibly I can furnish that information.

The CHAIRMAN. I think that will be helpful.

Mr. ENGLAND. If I can find it, I will do so. [See *infra*, p. 564.]

The CHAIRMAN. Very well.

Mr. ENGLAND (resuming). In both years, of course, salaries of officers were included in costs. Combining profits or losses and compensation of officers, the results would be:

	1940	*1939*
Companies reporting profits	$12,988	$15,743
Companies reporting losses	845	597

It appears from this sample that independent dealers do not find retailing gasoline, lubricants, and other products highly profitable.

PROFITS OF REFINERS AND MARKETERS

In 1940, the last full prewar year, 40 petroleum refining and marketing companies, representing large, medium-sized, and small corporations, had net sales of $4,918,417,108, of which $4,685,442,703, or 95.26 percent, were in the domestic market, and the remainder, $233,974,405, or 4.74 percent, were exports. The aggregate total investment, value of stocks, long-time debt, surplus and surplus reserves, was $7,649,649,000. Average net sales per company were $125,460,428, and average per company total investment was $191,-241,225. For the 40 corporations the net profit per dollar of sales was 9.7 cents and the average profit on the total investment, less reported appreciation, 7.29 percent. The average rate of profit on the total investment, before and after payment of Federal income taxes, by size groups, was as follows:

Group with assets—	Number of companies	Average rate of return before and after payment of Federal income taxes	
		Before, percent	After, percent
Under $4,000,000	7	2.75	2.14
$4,000,000 to $10,000,000	7	7.37	5.63
$10,000,000 to $100,000,000	9	7.04	5.81
$100,000,000 to $300,000,000	8	6.20	5.36
Over $300,000,000	9	7.56	6.35
Total	40	7.29	6.14

The nine large petroleum refining and marketing corporations had the highest profits both before and after taxes, and the group of smallest corporations the lowest. In fact, the rate of return of the small independent refiners was only approximately one-third of that of the large group.

APPROXIMATE DISTRIBUTION OF THE CONSUMER'S DOLLAR FOR GASOLINE AND LUBRICATING OILS

It is common knowledge that service station operators quite generally handle automobile tires, flushing oils, antifreeze materials and numerous other minor products, and also frequently repair automobile tires, etc., in addition to selling gasoline and lubricating oils. Consequently, it is not feasible to obtain the exact cost of their distribution. Moreover, few, if any, gasoline and lubricating oil refiners and marketers make all of their sales to wholesalers or to retail dealers.

The net sales for the 16 refiners reporting their sales through wholesalers aggregated $54,199,531, or an average of $3,387,471 per company, and the aggregate sales of refiners selling to all classes of customers, but largely to retail dealers, was $1,028,594,418, or $73,471,030 per company. Consequently the results below show the facts with respect to large and small refiners. The wholesale and retail dealer information was taken from income tax returns for corporations operating in

all parts of the country. The sample of refiners and marketers is heavily weighted with corporations operating in the central part of the United States and in California; however, the bulk of retail business is in gasoline sales, and lubricating oils are a highly important part of eastern small refiners sales.

Approximate average distribution of the consumer's dollar for gasoline and lubricating oils

Item	Distributed through wholesalers	Sales mainly through retailers
	Cents	*Cents*
Cost to retailer	50.53	51.92
Cost of distribution:		
Refiner	7.51	21.18
Wholesaler	15.41	
Retailer	23.90	23.90
Net profit before Federal income taxes:		
Refiner	.62	2.00
Wholesaler	1.03	
Retailer	1.00	1.00
Total cost to consumer	100.00	100.00

The cost to the retailer includes, of course, the cost of transportation. Data are not available to show separately this important item of cost.

These comparisons show that the large refiners, by assuming the wholesale distribution costs, were able to increase their net average profits by thirty-five one-hundredths of a cent per dollar of sales over the combined average profits of the smaller refiners and the wholesalers. The average cost of distribution for the large refiners was 21.18 cents per dollar of sales, compared with 22.92 cents per dollar of sales for the combined small refiners and wholesalers.

The smaller refiners selling through wholesalers, burdened with a higher combined distribution cost, sold their products to the retailer at prices averaging 1.37 cents per dollar of sales less than those obtained by their larger competitors. Thus the larger refiners advantage rested in higher average prices and lower average distribution cost.

The CHAIRMAN. That completes your statement?

Mr. ENGLAND. That is all.

The CHAIRMAN. Thank you very much, Mr. England.

STATEMENT OF JAMES A. HORTON, CHIEF EXAMINER, FEDERAL TRADE COMMISSION

Mr. HORTON. In appearing before this committee I desire to present for its consideration a brief survey of controversial marketing practices in the petroleum industry. These questionable practices here presented are not new in the industry and I may say that I presented these at quite some length before the Temporary National Economic Committee in October 1939, my statement appearing in volume 7, parts 16–17, entitled "Petroleum Industry," to which reference is made herewith.

Prior to the war there existed a number of practices in the marketing of gasoline, lubricants, fuel oil, tires, and motor accessories, the legality or illegality of which was in issue. These practices, stated generally, are as follows:

(1) *Unjustified price differences and discriminations.*—Complaints have been numerous that the major oil companies and other sellers of petroleum products were illegally discriminating in prices, meaning by illegal that the price difference or discrimination was unjustified and was attended with substantial lessening of competition, monopolistic tendency or the injury, prevention or destruction of competition.

These discriminations were accomplished in several ways, as for example, (*a*) split-account differentials, (*b*) preferential or greater discounts allowed to commercial accounts or industrial buyers, (*c*) price differences based on volume or trade classifications, or both, (*d*) secret rebates, (*e*) sales below cost, (*f*) leasing service stations at alleged low and inadequate rentals, and (*g*) granting of courtesy or credit card service to 100-percent stations or accounts only.

(2) *Use of tying and exclusive dealing contracts.*—Considerations which arose under this broad heading were infinite in variety, extending all the way from the "lease and agency" relationship to the straight sales contracts containing the provision that the vendee will not deal in any competitive petroleum product or, indeed, any product not satisfactory to the vendor.

It has been alleged that there are two main objectives of the supplier in marketing gasoline and lubricants: (*a*) The confinement of the service-station retailer to its own products, and other products satisfactory to it, and (*b*) the fixing of the spread between the price paid by the retailer and the price to be charged to the public.

Shortly before the war and at least on the eastern seaboard, the major companies abandoned the latter, (*b*), but sought to maintain condition (*a*). The State chain-store tax laws and social-security obligations created a difficult problem for the large oil companies, and they receded progressively from the possession or ownership of retail stations operated by themselves in their own names.

(3) *Retail price fixing in gasoline.*—All marketing companies maintain a fixed differential for premium or high-test gasoline. Most premium gasolines are manufactured by a patented process which makes use of tetraethyl lead, the patents being owned and licensed by the Ethyl Corp. A few high-test brands are manufactured without the use of the ethyl patents. A fixed differential of 2 cents per gallon above regular gasoline is usually provided for in the licensing arrangements between the owner of ethyl-gasoline patents and its licensees. Other high-test brands maintain the same differential.

The retail marketers purchase their gasoline and other petroleum products at prices which are very similar if not uniform. Charges of illegal agreements between retailers seeking to secure for themselves a definite and fixed margin between tank-wagon price and the retail price are generally found to be collateral with controlled margins as influenced or brought about by direct requirements of the large marketing companies.

Complaints which allege intimidation, coercion, or other oppressive tactics employed by large marketers against retailers have been received. They take the form of claims that retail leases have been

arbitrarily canceled without reason, petroleum supplies have been refused, harmful business conduct has been dictated to lessee retailers and independent retailers.

The Commission has also received several types of complaints from consumers of fuel oil and those interested in fuel-oil marketing.

(4) *Advertising with regard to the grade, quality, utility, and other characteristics of gasoline and lubricants.*—Claims for the quality, utility, greater mileage, and so forth, of branded gasoline and lubricants have appeared in all advertising media. Frequent complaints have been made that these claims and representations were in whole or in part false. The Commission investigated complaints of this character and has secured a number of stipulations and issued several cease and desist orders against such practices.

(5) *Contracts with tire and motor-accessories manufacturers.*—The files of the Commission reveal that many of the large oil companies had contracts with manufacturers of tires, batteries, automobile lamps and other accessories, and preferential treatment of the major marketing companies by tire companies and others has been dealt with by formal procedure of the Commission and by investigation.

(6) *Pump and tank equipment as leased, sold, or loaned by marketers of gasoline and lubricants.*—In *Federal Trade Commission* v. *Sinclair Refining Company et al.*, (261 U. S. 463), decided in 1923, the Commission, in substance, charged that it was an unfair method of competition for a large marketer of gasoline to loan or lease pump and tank equipment to retail dealers, upon the condition or agreement that the dealer would not use the equipment for distributing the products of competitors. The Supreme Court, in passing on the case, stated that the practice did not restrain the commerce involved in an undue manner and that it did not constitute unfair competition within the meaning of the Federal Trade Commission Act or under the provisions of the Clayton Act.

Since this ruling, all marketing companies have made use of the decision in divers ways. Some of the major companies allegedly sold pump and tank equipment at preferential prices made possible by special contracts with the equipment manufacturers; some allegedly loaned the equipment outright and still others made arrangements whereby dealer customers allegedly could purchase from the manufacturer at what seemed to be preferential prices.

Two types or phases of competition are involved: First, pump-and tank-equipment manufacturers and their wholesale dealers who seek business from retail gasoline distributors allegedly were injured by discriminatory advantages given to purchasers by or through the oil company. Second, the provision of free equipment or equipment at favored prices by large companies in conjunction with the sale of gasoline and other petroleum products affects the competition between rival oil marketers. Not only is pump and tank equipment involved, but also service-station and shop equipment, such as lifts, grease guns, air compressors, electric signs, et cetera.

In connection with the question of equipment as loaned or sold by the principal marketing companies, the following phases, if now in existence, would appear to require study and consideration: (*a*) The practice of selling equipment and relating the sale to gallonage; i. e., payment to be made at a stipulated rate per gallon or any similar

arrangement; (*b*) marketing companies' interest in, contract with, or ownership of manufacturers of pump, tank, greasing, and other equipment; and (*c*) price discrimination as allegedly practiced by the equipment-manufacturing companies and the large petroleum products marketers.

(7) *Exchange or intersale of gasoline by major marketers.*—It has heretofore been established that there is an extensive exchange of gasoline between the major marketing companies. Gasoline so exchanged is not usually processed further by either party to the exchange and is sold under the brand names of the respective marketing companies who are the recipients under the exchange.

The exchange account is kept in barrels of gasoline and not in dollars. If adjustment is necessary at the end of any stated period, it is made on the basis of current prices. With respect to the practice as a factor in the retail marketing of gasoline, two considerations arise. First, with respect to advertising and, second, with respect to the practice as it extends the range of selling activity of each company.

The customer who prefers and regularly purchases one or another of the branded gasolines believes that the products possess certain qualities, characteristics, or merit not found in competing brands. Therefore, he purchases his gasoline requirements from the company of his choice in the belief that he is obtaining a product manufactured by that company. The practice just described defeats at least the last referred to assumption of the customer; namely, that the gasoline is manufactured by a particular company and contains all the characteristic qualities set forth in that company's advertising.

Because of the scarcity of petroleum products and the rationing of gasoline no complaints of any consequence were received from either marketers or consumers during the War emergency, and there was no apparent need for investigations within the petroleum industry. However, with the return of adequate supplies of such products for civilian consumption, and the restoration of competition among the producers, refiners, wholesalers and retailers of petroleum products, there necessarily has arisen need for investigation looking to the correction of any law violations now engaged in or about to be engaged in.

The independent retailer, as well as the independent wholesaler, because of these alleged practices is becoming deeply concerned with his future in the sale and distribution of petroleum products, particularly in competition with those integrated companies engaged in production, refining, and marketing.

The following are typical of complaints which have been received by the Commission during recent months:

Major companies allegedly selling automotive parts to their filling-station proprietors at discounts which are greater than the price at which the average jobber is able to sell the same parts to these dealers.

Allegedly, some major oil companies and large rubber companies have entered into arrangements one with the other whereby retail service-stations handling products of the oil company will handle products of the rubber company with whom the major oil company has entered into arrangement exclusively—that is, products offered by the rubber company will be handled to the exclusion of competitive products from other sources. The arrangement is reciprocal in that retail outlets handling the rubber company's products will in turn handle the petroleum products of the major oil company.

Complaints concerning major oil companies engaged in marketing as well as production and refining. Such companies allegedly take advantage of this

integration to handicap the small jobber, by paying higher rents for stations and equipment than the independent can afford, etc.

The giving of secret rebates to dealers by the major companies.

Complaints against large integrated oil companies who, through affiliates or associates, extend their actual business beyond the boundaries of the areas in which they normally operate through the issuance of credit identification cards.

Refusal and threats of refusals to supply retailers who purchase and use certain additives.

A number of independent dealers have recently complained with respect to the practices of the major oil companies as follows:

By coercion, threat, and intimidation of cancellation of lease, the dealer is compelled to open his place of business at unprofitable early morning hours and remain open until unprofitable late evening hours.

By threat, coercion, and intimidation of cancellation of lease, he is compelled to buy other than manufactured items from his supplier. The supplier is acting as a jobber for parts and accessories and compels the dealer to buy these parts and accessories from his leaseholder despite the fact that many times the dealer has to pay more for these items than he could buy them for from other sources.

By threat, coercion, and intimidation of cancellation of lease, the supplier insists on increased gallonage sales without taking into consideration strikes stopping deliveries from the supplier's place of business, fewer people driving, particularly defense plant workers because of war reconversion adjustment.

The supplier and issuer of the lease also is creating competition among his own trade by opening up every source of distribution including dilapidated places that have been closed for years, also taking away from a successful dealer the dealer's fleet accounts by supplying these accounts, whom the dealer has built up, at the dealer's net costs, and in some instances, better than what the dealer gets.

The supplier is, and there is no other category that you can place him in, but the status of his actually being an employer, with the employee furnishing the money to operate a place of business called a gasoline station. It is my opinion that by some phony manipulation or interpretation of the law, the supplier does this to evade the full responsibilities in operating an individual gasoline station. These responsibilities are bookkeeping of taxes due the Treasury Department, bookkeeping of taxes due the State treasury departments, bookkeeping of social-security collections and unemployment benefits, and bookkeeping of lawsuits that might arise out of accidents in the gasoline station.

My interest and the interest of the Commission is to assist by means of its investigative processes and factual reports in the establishment of a national petroleum policy in the interest of national security. Also to preserve freedom of enterprise and private initiative. I believe any individual has the right to enter a business of his own choosing and in carrying on that particular business, he is entitled to protection against all unfair or monopolistic practices which seek or have the effect of hampering that individual in the conduct of that business or which destroy that opportunity or seek to destroy the business itself.

The CHAIRMAN. There are no other witnesses.

You have some material to put in the record, Mr. Fraser?

Mr. FRASER. I would like to introduce in the record a letter dated March 23, 1946, from Mr. W. J. Brundred to Capt. Charles P. Franchot, enclosing an elaboration of the former's testimony in relation to air and gas repressuring.

(The letter and enclosure referred to are as follows:)

BRUNDRED OIL CORP.,
Oil City, Pa., March 23, 1946.

Capt. CHARLES P. FRANCHOT,
United States Navy Department,
Oil Procurement Division, Washington, D. C.

DEAR CAPTAIN FRANCHOT: Not having intended to appear before the O'Mahoney committee, I had no statement prepared. The questions you asked me were directed to developing my improved methods dealing with air or gas repressuring, and I am afraid my answers gave but little information.

I am not familiar with procedures before these committees and doubt whether a witness could later elaborate on any statement he made on the stand. It might be possible, however, if the subject matter was not controversial, and I am sending the enclosed statement to you which you might introduce into the record if it is permissible and if not, it will at least give you some information in which you will individually be interested.

With best regards, I am,

Yours very truly,

W. J. BRUNDRED.

(Enclosure.)

FLOWING OF STRIPPER WELLS IN VENANGO COUNTY, PA.

In the oil fields of Pennsylvania, wells have been producing over such an extended period of time that the oil sands for all intents and purposes have become depleted of energy in the form of sufficient gas pressure to cause the wells to produce at a profitable rate, unless measures to increase reservoir energy are applied by the injection of water, gas, or air into the oil-producing formations.

Water flooding has been highly successful in the Bradford field in the northern part of the State but has met with but very little success farther south. Air and gas injection is the method used in the field south of Bradford. This latter method heretofore has not been as efficient as water flooding, principally on account of channeling, or as it is usually termed, "bypassing." Bypassing is the result of a tendency of the injected air or gas to travel the shortest distance that is from point of input to the nearest producing well, and in so doing sweeps the oil out of only a comparatively narrow strip or channel and thereafter continues to move with increasing inefficiency along this channel unless means are taken to prevent it. Previous methods used to correct this condition were to shut off the input for a period of time or to let the producing well head up with a sufficient fluid column to balance the gas pressure and prevent further ineffectual escape of gas from the reservoir. Confining the gas in this manner caused it to seek escape through some other well. Another method was the periodic opening and later closing the control valve on an injection well. This method was termed "slugging." During the period the valve was shut and no air was being injected into the formation, it was thought that oil from the saturated area would move in to the channeled-out area and to some extent, at least, retard bypassing. Occasionally, but not always, was this method of any benefit.

Realizing the necessity for getting away from the direct movement of air from input to producer and in an attempt to secure radial movement of gas and oil into each producing well, we concluded that the control should be at the output or producing well and that this control might best be secured by flowing the producing well, utilizing the reservoir gas volume to effectuate the flow. Any flow which would be intermittent and not continuous would permit escape of gas from the formation only when oil was being ejected. Reservoir pressures would build up between flows and, thus restored, would cause a radial movement of gas and oil into the producing well when pressure in the well bore was suddenly reduced after the flow was completed. We felt this method of operation would result in a conservation of the air, a lower oil-gas ratio, and a more efficient use of the injected air, since the continuous escape of gas at approximately atmospheric or field gas line pressures would be prevented.

The results obtained seem to bear out the theory and point to a much more efficient operation which conceivably could cause a revision in methods in air or gas repressuring operations in the field south of Bradford.

We formerly looked on the injection of air or gas as an "air-gas drive." Our conception of this has now changed. We now have a "pressure restoration" and thereafter "pressure maintenance."

I will not at this time go into the detail of how the wells are equipped except to say converting a former pumping well to flow is quite inexpensive. A stuffing box used as a packing gland between the 1- and 2-inch pipe, a string of 1-inch pipe, and a 2- by 6¼-inch leather cup and packer of the same size is the only additional equipment we use at the well. As a credit against this cost is the value of the working barrel, valves and sucker rods withdrawn from the well, as well as the surface equipment consisting of pumping jacks, pull rods, gas engines, power houses, and so forth. A technical paper covering this subject was prepared by Mr. Robert B. Bossler, our engineer, and was presented at the midyear directors' meeting of the Independent Petroleum Association of America in April of 1944. Full details as to equipment and analysis of various conditions affecting flow were covered in Mr. Bossler's paper. I am, therefore, merely confining this statement to a brief outline of the theory involved and the advantages obtained by flowing.

Our operating conditions prior to the flowing experiment were as follows:

Injection pressures, except on a few wells which were purposely reduced, were 325 pounds per square inch. Outlet pressures on the producing wells were the pressures prevailing on our field gas lines, not exceeding 3 or 4 pounds per square inch. Outlet gas volume of each producing well was available from past records, showing sufficient gas volume was available to flow the oil. We shut in several wells for the purpose of seeing what pressures would be available.

These pressures at the start of the operation were approximately 50 pounds per square inch and three or four wells were equipped to flow. As pressures gradually increased to 60 pounds, some of the wells flowed, and as pressures climbed still further, additional wells flowed. Reservoir pressures have now increased to approximately 175 pounds per square inch, due to the fact that very little gas escapes from the formation except when a well is flowing. This increasing pressure indicates a greater air volume is being injected than is escaping from the reservoir and indicates fewer wells of injection will be required than were originally thought necessary. Wells do not flow steadily. Flow occurs automatically at intervals without manual assistance after each well accumulates sufficient pressure and volume to eject the oil. The flowing cycle is as follows:

Over a period of time which varies as between wells and is dependent upon the gas volume each well produces, the pressure climbs to the peak pressure at which flow commences for that particular well. After the oil is expelled, pressure drops rapidly as the stored-up gas escapes through the 1-inch flow string. The well bore immediately thereafter is at a much lower pressure than the surrounding area and gas and fluid movement, which under the former air drive method we believed moved along a narrow strip from input to producer, now under the flowing method moves radially into the low-pressure well. The influx of new fluid seals the bottom of the flow tube, preventing further escape of gas and pressure starts climbing to a peak when another flow cycle will start. Since the period during which gas escapes from the formation is of such short duration, gas which heretofore escaped is now retained in the reservoir.

We believe that the narrow bands or channels heretofore mentioned from which the oil had been driven under the old air-drive method, now under the flowing method have an opportunity to become resaturated due to the constantly changing direction of movement of the oil and gas. Movement is not as heretofore directly from input to producing well. Inputs now merely serve to maintain reservoir pressure, and each producing well at or near its peak pressure through a tendency to equalize, furnishes gas to restore pressure to those wells which are at or near the bottom of their pressure cycle. This cross movement between wells, we believe will not only prevent bypassing but will help to correct this condition where it had previously existed.

A summary of the advantages obtained from flowing are as follows:

1. A constantly changing of direction of movement of reservoir fluid which we feel will overcome tendency to bypass.

2. Radial flow will take the place of what heretofore was almost a straight-line flow from input to producing wells.

3. A reduction in gas-oil ratios.
4. A marked reduction in operating expenses.
5. Increased production of the wells.
6. Mounting reservoir pressures indicate more air is being injected than is required to lift the oil, thus indicating that fewer wells of injection will be required.
7. In addition to the above advantage, we feel that a total greater oil recovery will be obtained.

W. J. BRUNDRED,
President, Brundred Oil Corp.

FEBRUARY 11, 1946.

Mr. FRASER. I also would like to introduce a letter dated March 18, 1946, to the chairman of the committee, from the Independent Petroleum Marketers Association of Minnesota, enclosing a copy of a resolution passed at a meeting of the association held in Minneapolis on March 13, 1946.

(The letter and resolution referred to are as follows:)

INDEPENDENT PETROLEUM MARKETERS ASSOCIATION,
MINNEAPOLIS 2, MINN., *March 18, 1946.*

Hon. JOSEPH C. O'MAHONEY,
Senate Office Building, Washington, D. C.

DEAR SENATOR: It is our understanding that the Senate Oil Committee of which you are the chairman is to commence hearings on Tuesday relative to the independents position in the industry.

Please be advised that at a meeting of this association held on March 13, 1946, and attended by a large representative group from throughout the State after much deliberation and discussion of present-day costs of doing business which has steadily been increasing for a long period of time without a compensatory adjustment in the margins allowed by our major suppliers. The plight of the independent is so severe that unless some measure of relief is granted them in the very near future, thousands of them throughout the United States will be compelled to go out of business.

We are enclosing herewith a copy of a resolution passed by this group which explains in more or less detail what is in the minds of the independents and which generally reflects the situation as it really stands at this time all over the country. We are caught between the prices set by our major suppliers and when we buy from the refineries and the prices at which we sell which is also set by our major competition who can make up their short margins in one branch of the industry by more favorable margins of profit in other departments of their business such as production, refining, and transportation (pipe lines), etc.

We know that with your leadership that you will insist that the small business interests be given a fair chance to stay in the business of their choice by getting a square deal from the supplying companies and that they be made to do something constructive to remedy a situation of this kind by adjusting margins fairly in conformity with the increasing costs at this time.

We will appreciate your consideration of the facts set forth in the enclosed resolution and trust that your committee will give their consideration thereto. We shall also appreciate receiving a report on your committee's deliberations from time to time, and we assure you of our fullest cooperation at all times in furnishing your committee with further information.

Yours very truly,

INDEPENDENT PETROLEUM DISTRIBUTORS ASSOCIATION,
By F. H. BUEHLER, *Executive Secretary.*

RESOLUTION PASSED AT A MEETING OF THE INDEPENDENT PETROLEUM DISTRIBUTORS ASSOCIATION AT ITS MEETING HELD IN MINNEAPOLIS, MINN., ON MARCH 13, 1946

"*Resolved,* That, whereas, due to the increased cost of doing business for the past 12 years, members of this association and other petroleum distributors have found it impossible to continue doing business at the margin of profit permitted by the supplying companies and due to the fact that by reason of the increased cost of labor, supplies, equipment, and taxes, the margin heretofore allowed the distributors has been and is wholly insufficient to enable the distributor to con-

tinue to do business at a profit; the members of this association request that the major suppliers of gasoline increase the margin to the distributor to the extent that such increase will compensate for the added cost of doing business, including the increased cost of labor, equipment, supplies, and taxes experienced from the year 1933 until December 31, 1945.

"That, whereas, the rumored increase of one-half cent per gallon is insufficient to compensate for said increased costs, request be made upon the major suppliers of gasoline that when granting increased margins to the distributor, consideration be given for the likely future increases in the cost of doing business, including the likely increased cost of labor, equipment, supplies, and taxes.

"That the practice heretofore adopted and continued by some of the major suppliers of gasoline in granting to service stations a secret margin or so-called rental over and above the normal established retailer's margin as based upon service station tank wagon prices is discriminatory and an unfair trade practice and unfair competition and that request be made upon the major suppliers to discontinue such practice and that the major suppliers further discontinue the practice sometimes adopted by them of furnishing loaned equipment consisting of gasoline pumps, underground storage tanks, and the like, to service stations and others.

"That request be made upon the major suppliers to immediately discontinue the practice sometimes adopted by them of granting special or extra margins to some of the wholesale distributors which they do not grant to all wholesale distributors.

"That a copy of these proceedings and this resolution together with a copy of sections 10474–10480 of Mason's Revised Statutes of Minnesota for 1927 be forwarded to the American Petroleum Institute and that request be made upon that institute that this resolution be presented and discussed at the meeting of the marketing committee of that institute to be held at Atlanta, Ga., April 2, 1946, and that copies of this resolution and said Minnesota Laws be forwarded to the petroleum trade papers."

I, the undersigned, secretary of the Independent Petroleum Distributors Association, hereby certify that the foregoing is a true and correct copy of the resolution adopted at a meeting of said association at the place and on the date above set forth.

F. H. Buehler, *Secretary.*

Mr. Fraser. I would also like to include in the record a statement by the Ohio Petroleum Marketers Association, Inc., unanimously approved on July 6, 1945, by its board of directors. The association requested that this statement be introduced when we had this hearing.

(The statement referred to is as follows.)

Ohio Petroleum Marketers Association, Inc.,
Columbus 15, Ohio.

Statement Submitted by the Ohio Petroleum Marketers Association, Inc., for Consideration by the Special Committee of the United States Senate Investigating Petroleum Resources

The Ohio Petroleum Marketers Association, Inc., an organization with headquarters at Columbus, Ohio, formed for the purpose of promoting the interests of independent jobbers marketing petroleum products in the State of Ohio, and in existence for some 20 years, desires to present to your committee a statement of its views upon matters related to our industry of vital concern to the welfare of independent oil companies in the postwar period. Our members are primarily jobbers who purchase their supplies from refiners, either wholly integrated companies or companies engaged solely in refining, and who resell those products and render a marketing service, either under their own individual brands or under the brand names of their suppliers, to retailers operating service stations or garages, or to commercial consumers or to the farm trade.

Many jobbers, as will be later pointed out, are also engaged in retailing through their own service stations, some of which are operated directly and others through lessee dealers. They, therefore, have a dual interest as independent companies in the problems of marketing—primarily in the wholesale operation and secondarily in the retail operation. As will be pointed out also, many jobbers included in our membership are interested in the field of trans-

portation. All of them operate tank wagons for the distribution of their products from their bulk plants to dealers, to commercial consumers, to the farm trade and to their own service stations. Some of them, in addition, operate transport trucks, hauling petroleum products for other oil companies, industrial accounts and various governmental agencies—some from refineries, some from marine terminals and others from pipe line terminals. And among our members are many jobbers who operate barges and marine terminals upon the Ohio River or Lake Erie. Our organization, therefore, has a wide interest in the problems and the future of the independent company as a factor in the petroleum industry.

This statement, prepared and approved by the board of directors of our association, for presentation to your committee, we believe, will be of interest to you and we trust it will have your careful and sympathetic consideration.

CARTELS

Your committee has held extended hearings upon the general subject of cartels. Many capable and credible witnesses have testified in opposition thereto. It is therefore unnecessary for us to review at any length the arguments upon that issue. We do desire, however, to register our unqualified opposition to organizations of this character. Cartels primarily are intended either to restrict production, establish prices, or allocate markets for products—or to combine the exercise of all of those functions. A Government cartel is one controlled or sanctioned by the Government and subject generally to administrative supervision for the purpose of enforcing its terms and conditions. Such cartels obviously would impose upon industry and those engaged in it the compelling force of government regulation, which is contrary to the cardinal doctrine of private enterprise with freedom of competition under which this country has developed and prospered to a degree unparalleled in world history. Private cartels involve the element of monopoly, which obviously is contrary to the traditional principle of free and unlimited competition, to preserve which has been the constant aim of our statutory law.

Whichever form such agreements might take would be equally destructive of private enterprise. By their very nature they would destroy that private initiative under which American industry has achieved such outstanding records. Such initiative, compelled by the stimulus of free and open competition, has produced most of the world's great inventions, has created new and constantly improved products at lower prices and with higher wages to employes—to the advantage alike of the consumer, the manufacturer and the laborer. In no field has that been more notable than in the petroleum industry.

For illustration, in 1920 the average retail price in 50 representative cities in the United States of housebrand or the commercial grade of gasoline, ex tax, was 29.74 cents per gallon. In 1940 the average retail price, ex tax, for the same brand of gasoline in 50 representative cities was only 12.75 cents per gallon, representing a decline of approximately 57 percent in price. Yet, notwithstanding this decline in price, there was a constant improvement in the quality of the product, as shown by the fact that the octane rating increased from 52 to 74. During that period the average hourly wages of refinery employees increased some 67 percent and a wide field of opportunity was opened for employment in the distribution of petroleum products to the increasing millions of owners of motorcars who, by reason of the reduced price of gasoline, were enabled to enjoy the health, the diversion and the economic advantages afforded by that form of transportation.

Certainly there is nothing in the record of national socialism or any other of the philosophies invoked by those who would impose some form of administrative control or regimentation upon American industry that can equal our performance, which safeguards freedom of opportunity for individual enterprise and initiative with their reward for successful achievement. In our opinion, whether created under Government control or under private agreement, cartels connote, among other things, determination of the prices at which may be sold the products of the industry involved—in other words, price fixing. Price fixing is essentially un-American and is abhorrent to those who believe in the principles of private enterprise. Prices, like quality, should be the result of free competition.

While the emergencies of war justify the need of imposing regulation and a certain amount of regimentation upon our industrial and economic life, certainly in time of peace the free competitive system has been vindicated by the industrial and social development of the United States. We wish to preserve that system

and hand it down as an heritage to our children. Consistently therewith we desire to register our opposition to cartels of whatever type.

PIPE LINES

Our members are keenly interested in the disposition to be made by the Government of the Big Inch and Little Inch pipe lines, which have been built at an enormous outlay of public money to meet the exigencies created by the war. In our opinion, these pipe lines should not be destroyed or junked but should be preserved as an essential and integral element of our national defense. The problem of their ultimate use or disposition, we agree, is undoubtedly complex. Various solutions of the question have been proposed, such, for example, as their use for transporting natural gas from the producing fields of the Southwest to the vast market for heating fuel along the eastern seaboard. That suggestion, in our opinion, has practical possibilities meriting serious consideration.

In all events we submit that neither these specific pipe lines, nor others financed and built by private capital and owned by corporate interests, should be permitted to be used or operated so as to drive the independent marketer out of business or impose upon him insuperable competitive handicaps. The use of such facilities, where occupying the status of public utilities, or where constructed by public funds, should be made available to the independent marketer, possibly by lowering the minimum quantity to be tendered to amounts which may be offered reasonably either by single independent distributors or groups of such distributors operating within a normal marketing area.

It is submitted that the control of pipe-line facilities in the hands of a very limited group of integrated owners may tend to the development of monopoly and to give to them a competitive advantage having serious implications for the independent marketer. We do not advocate pipe-line "divorcement" as has been suggested by some. We believe that to be unnecessary. Such a proposal is clearly a decided step toward governmental regimentation which, in our opinion, is undemocratic and undesirable. The situation, we believe, can be met by means such as we have suggested.

We do urge that the new Government pipe-lines, such as Big Inch and Little Inch, shall not be so used or disposed of as to disrupt or demoralize the system of gasoline distribution or marketing which prevailed before the outbreak of the war or to give to any company or group a competitive advantage over others.

"DIVORCEMENT" LEGISLATION

From time to time legislation has been proposed to compel by statute the segregation or "divorcement" of the different functions of the petroleum industry. Primarily there are four such functions—production of the crude oil, refining of the crude oil into gasoline, kerosene, naphtha, fuel oil, and other products, transportation of the refined products from the refinery to the local market, and finally the marketing or distribution of those products to the consumer. Bills which have been proposed have varied in character and in the degree of dismemberment which they propose. Some of the advocates of so-called "divorcement" propose that no individual or company shall be permitted, either directly or indirectly, to engage in more than one of the four enumerated functions or activities.

Others have proposed that if a company own, or have a financial interest in, transportation facilities—primarily in a pipe-line—it shall be prohibited by statute from engaging in refining or marketing. But most commonly proposed has been legislation to prohibit a so-called integrated company or a company engaged merely in refining, from engaging also in either the transportation or the marketing of petroleum products. In other words, they would require a refiner to sell his products at the refinery and transfer title thereto to some third party at the refinery gate. Some have even gone so far as to advocate legislation which would divorce wholesaling from the retailing of petroleum products. In brief, in one form or another, they seek the dismemberment or disintegration of those companies which now are engaged, and long have been engaged, in the sharpest competition with each other in the petroleum field.

We do not question either the motives or the sincerity of those who advocate legislation of this character. It is, however, our considered opinion that their proposals do not bear analysis and that their logic is open to criticism.

It is their contention, often stated, that integrated companies conduct their retail operations at a loss and that they recoup those losses out of profits made

from their refinery operations or possibly out of profits derived from the production and sale of crude oil. They complain that the individual retailer who is dependent entirely upon the profits which he derives from his service station to compete successfully with those who are not financially dependent upon their retail operations—that they are unable to sell at a profit at the prices charged by outlets of integrated or semi-integrated companies whose retail operations, they contend, are subsidized by profits earned in other fields. The proponents of such legislation declare that they seek to compel integrated companies to conduct their marketing operations at a profit and not permit them to market their gasoline at a loss. This can only mean that they would compel such companies to raise their prices at retail outlets and thus to make a profit from this branch of their operations.

An even casual survey of any marketing area under normal conditions does not support their contention. For in almost every sizable marketing community there can be found many outlets enjoying a substantial gallonage selling locally branded products at prices below those currently charged at the outlets of either integrated companies or of dealers or jobbers handling the branded products of integrated or semi-integrated companies. Such outlets consistently sell at less than the generally prevailing price in the community in the hope of attracting added gallonage and making a larger gross profit through the medium of increased volume. It is generally agreed by economists that the price of any commodity, gasoline included, in any market is determined by the lowest amount charged by any person operating in that area enjoying a substantial volume of business and selling an article of comparable quality. It follows that the retail outlets of the integrated companies, and other dealers and jobbers in the same community marketing petroleum products, in order to protect their gallonage, always are obliged to sell their products at prices as low as, or in any event approximating the prices charged by their competitors.

The enactment of "divorcement" legislation certainly would not remove the competition described. Those low-price sellers would still continue to function and largely would determine the price at which their competitors, including those advocating the enactment of such legislation, must sell unless they expect to suffer a substantial loss in gallonage which would still further embarrass their operations.

If, as some suspect, the advocates of this legislation hope thereby to compel outlets now operated by jobbers, dealers, integrated or semi-integrated companies to raise their retail service station prices so that the low-price operators may still undersell them, but at higher prices than at present, and thus make a greater profit than they can now enjoy, then the consuming public will be compelled to pay more for its gasoline, and we assume that it is the consuming public in which your committee is interested primarily.

The advocates of "divorcement" legislation base their argument upon the thesis that by the statutory dismemberment of the petroleum industry each branch—production, refining, transportation and marketing—would be compelled to "stand on its own feet," and compelled to operate at a profit. Surprisingly, they contend that the price of gasoline to the consuming public would be reduced by the process. We are forced to the opposite conclusion. Among other things, their contention ignores the economies naturally incident to unified operation and to the savings which by the force of competition are thereby enjoyed by the consumer. Even those who seek merely to divorce marketing from refining by compelling the refiner to sell his products at the refinery gate would prohibit the refiner from transporting his products to the market and, conversely, would prohibit the marketer from transporting his purchases from his refinery source of supply. This would compel the introduction of an intervening agency—that of transportation—as an independent factor. Manifestly, those engaged in that operation would expect, and must have, a profit upon their investment and the functional service which they would perform. It is evident that, with this intervening operation and the necessary profit thereon, the jobber would be compelled to pay more for his products when finally delivered to his bulk plant. This added cost must of necessity be passed on in the shape of a higher price to the consumer because of the narrow margin under which the jobber operates.

Many of the members of our organization, besides being engaged in the wholesaling and retailing of gasoline, kerosine, fuel oil, and other refined petroleum products, are engaged also in the transportation of those products either by water or by transport trucks. They object to legislation which arbitrarily would

circumscribe their activities and would compel them to sacrifice and abandon a portion of the business which by their industry and initiative they have been able to establish. They object to legislation which would prohibit them, either individually or as groups of independents, from engaging in refining operations in the event that good fortune should attend their efforts.

We believe that the advocates of "divorcement" legislation fail to realize the certain implications of their efforts to dismember the industry which has brought to 30,000,000 automobile owners a constantly improved product at steadily decreasing cost.

MARKETING PRACTICES

While the function of the jobber is primarily and essentially that of distributing petroleum products from the refinery or marine or pipe line terminal to the retailer—that is, of purchasing from the refiner in tank car, barge lot or trans port quantities and reselling to the retailer in smaller amounts suitable to his current demands and storage capacity—a majority of jobbers are engaged also in retailing—selling to motorists through service stations owned by them and either operated directly or leased to dealers, as well as selling to dealers who own and operate their own service stations—and in selling to the farm trade by tank wagon deliveries and to commercial consumers, such as owners of fleets of trucks, busses and taxicabs. Our organization, therefore, has a very keen interest in marketing problems and practices.

While we believe it unsound and undesirable for any company, integrated or otherwise, to operate any portion of its business at a loss, we recognize that in an economy of free competition it is not always possible for a business to be conducted so as to show a profit in all of its operations. Nor do we see how any statutory mandate can establish an economic Utopia wherein everybody can operate at a profit and conduct all of his ventures with financial success, especially since any legislation intended to prohibit sales at less than cost, in order to be valid, must contain an exception which will permit the meeting of competition. While we believe that jobber, dealer, integrated or semi-integrated companies should conduct their marketing operations at a profit and should maintain that branch of their business upon a sound basis, honestly reflected by separate records, we perceive a certain incongruity in the demand by certain groups that such companies be required by law to charge more for their products in order that they may be successfully undersold.

We strongly condemn the building and subleasing of expensive service stations, no matter by whom owned, at low rentals for the purpose of stifling competition. While we believe that service station rentals should reflect a fair return upon the capital invested therein, we recognize that many existing stations, due to shifts in population, relocation of highways and similar factors, can be expected no longer to justify rentals predicated upon the original investment which they represent.

We venture the hope that, upon the advent of peace, the termination of present administrative restrictions prohibiting the construction of new retail outlets will not result in the indiscriminate and uneconomic building of service stations not warranted by considerations of local demand or public convenience.

While we recognize that during the drab years of the depression many submarginal outlets provided a more or less meager income for thousands of men who otherwise would have been forced upon relief rolls, we express the hope that there will be no recurrence of conditions which will serve either to excuse or justify the operation of outlets whose existence cannot be warranted otherwise.

We desire to commend the so-called Robinson-Patman law, whose enactment served to outlaw in commerce and industry generally such unfair trade practices as price discrimination and the granting to favored dealers of secret refunds, rebates, or other favors which enabled them to enjoy a competitive advantage over others similarly engaged in the same marketing area. That legislation has vindicated the hopes of its proponents.

FEDERAL TAXATION OF GASOLINE

Our organization urges that Congress, at the earliest possible moment, discontinue or repeal the Federal tax upon gasoline and lubricating oil. The levy upon those products by the Federal Government constitutes an invasion of the field of taxation which should be reserved exclusively to the several States. That the Federal Government should withdraw from that field and discontinue the taxa-

tion of gasoline has been repeatedly recommended by special congressional committees which have given serious attention to the question of developing a scientific system of taxation which would recognize the need of both the State and the Nation for adequate operating revenues and would establish a proper line of demarcation of sources of revenue consistent with the welfare of the public and the peculiar responsibilities and activities of local and National Government.

Gasoline taxes in varying amounts have long been in force in every State of the Union and have been justified by their advocates as a special tax upon a limited class of citizens because the revenues so raised have been devoted, in theory at least, to the construction and maintenance of highways from which motorists are said to derive a special benefit. We deem it appropriate to suggest, however, that the motorist is by no means the sole beneficiary of our highways since, obviously, the general public derives many advantages therefrom. For example, the farmer enjoys a wider and more accessible market for his products, and the consumer, the merchant, and the home owner derive substantial advantages from our modern highway system for which the motorist is thus taxed.

In normal times the pyramiding of the Federal gasoline tax upon the local State tax imposes a serious financial burden upon the motorist. Ohio motorists pay gasoline taxes amounting to 5½ cents per gallon, of which 4 cents are collected by the State and the remaining 1½ cents go to the Federal Government. Today in Ohio the price of the commercial grade of gasoline, ex tax, is 12½ cents per gallon, but with the Federal and State taxes added is 18 cents per gallon. Therefore, in Ohio the motorist pays taxes aggregating 44 percent of the price of the product which he purchases at the gasoline pump. Such a tax upon an essential article of daily consumption is excessive and unwarranted.

The gasoline taxes, State and Federal, have appreciably tended to defeat the public in its right to enjoy the reduction in the retail price of gasoline to which reference has been made earlier. A very interesting prewar study of the financial status of automobile owners was made by the Federal Government and the American Automobile Association. This survey showed that at that time two-thirds of all motorists had never owned a new car—that is, had always been obliged for financial reasons to purchase used or second-hand automobiles; that every fourth automobile was owned by a family having an income of less than $20 per week; that 51.7 percent of all families then owning passenger cars had an income of $30 per week or less; that 70.8 percent of families then owning automobiles had a total income not exceeding $40 per week, and that three-fourths of all automobile owners then belonged to the class whose earnings were so low that in the prewar days they paid no Federal income taxes. These figures, of course, have been disturbed by the marked income changes created by the higher wages of the last 4 years but will again be approximated when normal wage and employment conditions are restored. In all events, in Ohio today when a motorists pays a dollar at a gasoline pump he receives only 69 cents worth of gasoline, while he contributes 31 cents in taxes to the State and Federal Governments. He certainly is entitled to relief from such onerous taxation.

Further, the Federal tax of $5 per year levied upon the right to use an automobile should be repealed immediately. With the difficulty of its collection, it places a discriminatory burden upon the conscientious motorist who pays it as compared with his neighbor who ignores and escapes the levy. It is patently absurd for one branch of the Government to levy a tax upon the right of a motorist to drive a car while another branch of the Government, through the medium of gasoline rationing, restricts such right of driving to a minimum.

INDUSTRY COOPERATION

In conclusion, it is admitted that we have deprecated various practices and have raised certain issues without having made definite or specific recommendations as to their proper solution. We believe that at least certain of the questions raised are of sufficient importance to warrant your committee's giving consideration to the appointment of a representative committee of the petroleum industry to cooperate with your group in seeking an appropriate solution thereof.

(The foregoing statement was approved by unanimous vote of the board of directors of the Ohio Petroleum Marketers Association, Inc.,

at a meeting of the said board, duly and regularly called and conducted, and held in Columbus on July 6, 1945.)

Mr. FRASER. I would also like to include a copy of a resolution of March 14, 1946, which we have received from the same Marketers Association, relating to the disposal of the Big Inch and Little Big Inch pipe lines.

(The resolution referred to is as follows:)

RESOLUTION

Whereas the Surplus Property Administration in its recent report to the Reconstruction Finance Corporation has recommended that the Government-owned pipe lines should be kept in petroleum service for the transportation of crude oil and refined petroleum products to the eastern seaboard, or, if that be not possible, for the transportation thereof from both the southwest and the Atlantic seaboard to interior points, either through sale or lease of such lines to companies or groups in the petroleum industry, or, in the alternative, that they be operated for that purpose by the Government on a full-cost basis; and

Whereas such report fails to take into consideration the fact that there are already in existence and available industry-owned refining and transportation facilities sufficient to furnish ample quantities of petroleum products in an efficient manner and at low cost to the interior areas and that such proposed use of these pipe lines would inevitably tend to eliminate a large number of small or moderate-sized independent refiners in the interior area and to concentrate refining capacity in the Gulf and east coast areas in the hands of a relatively few refiners; and

Whereas such recommended use of these pipe lines would inescapably result in flooding the Midwest area, already amply supplied with such products, with large quantities thereof from other producing and refining fields to the certain dislocation of the established economics of the oil industry throughout this area, all to the serious detriment of the small independent marketers without any enduring advantage to the public; and

Whereas such pipe lines are not susceptible of operation except by one or more large corporations or some cooperative group enjoying statutory advantages over competitors in the field of taxation, or by the Federal Government in competition with the established facilities of the oil industry; and

Whereas such pipe lines were admittedly constructed for the purpose of serving as an emergency instrumentality for aiding in the prosecution of the war and without any intention that they should be continued in use subsequent to the termination of hostilities; and

Whereas the Government realized savings therefrom during the war period in excess of its investment therein and, in addition, has earned a substantial profit upon the cost thereof; and

Whereas an outstanding firm of engineers, upon the basis of a careful study of all factors involved, has, in a comprehensive report previously submitted to the Defense Plant Corporation, reached the conclusion that there is no economic use for such pipe lines except as they may be converted, in whole or in part, to the transportation of natural gas; and

Whereas it is our conviction that the recommendation of the Surplus Property Administration, if adopted, would inflict incalculable injury upon large sections of the oil industry in the State of Ohio and other interior States as now established and efficiently supplying the public demand for such products at low prices: Now therefore be it

Resolved, that the board of directors of the Ohio Petroleum Marketers Association, Inc., an organization representing the wholesale distributors of petroleum products in the State of Ohio, in session at Columbus, Ohio, on March 14, 1946, reaffirms its previously expressed opposition to the use or disposal of either the Big Inch or Little Inch pipe line in any manner likely to disrupt or demoralize the orderly system of gasoline distribution now prevailing or likely to give to any company or group a competitive advantage over others and urge that such lines, however, be preserved by approved processing methods as an essential and integral element of our national defense; and be it further

Resolved, That a copy of this resolution be forwarded to Hon. Joseph O'Mahoney, chairman of the Special Committee Investigating Petroleum Resources, with the request that it be given appropriate consideration and be incorporated in the

record of the hearings of said committee, and that copies thereof be also forwarded to the Governor of Ohio and to the Senators and Members of the House of Representatives from the State of Ohio.

(The foregoing resolution also was endorsed unanimously by the membership of the association during its annual convention on the same date—March 14, 1946.)

Mr. FRASER. I would like to introduce a copy of a press release dated March 13, 1946, from the Gulf Coast Refiners Association, together with a letter from such association, to the chairman of this committee, dated January 8, 1946.

(The press release and letter referred to are as follows:)

[Press release]

GULF COAST REFINERS ASSOCIATION,
Houston 2, Tex., March 13, 1946.

G. C. R. A. STATEMENT TO OPA

The Gulf Coast Refiners Association, Houston, has today filed the following telegram with the Office of Price Administration, Washington, relating to the effect of crude oil price ceiling increases on the independent refining industry.

"In conferences now considering proposed increase in petroleum products price ceilings please consider our memorandum of January 8, 1946, and our telegram of September 7, 1945. If crude-oil ceilings are increased without commensurate increases in products ceilings, independent refiners face prospect of shutdown. Refiners must have greater flexibility of operation to avoid processing additional surplus of gasoline and to correct existing critical shortages of other products. Such flexibility is impossible when products in demand have ceilings which do not permit profitable operation by increasing yields of such products.

"Independent refiners have absorbed their limit in increased costs of labor and maintenance, and many are already operating without adequate profit or at a loss. Unless adjustments are made in product ceilings this will tend only to eliminate independent competition and continue in operation only those companies which can absorb refinery losses in profits from other operations.

G. L. ROWSEY,
President, Gulf Coast Refiners Association."

GULF COAST REFINERS ASSOCIATION,
Houston 2, Tex., January 8, 1946.

Senator JOSEPH C. O'MAHONEY,
Chairman, Special Senate Committee
Investigating Petroleum Resources,
Senate Office Building, Washington, D. C.

DEAR SIR: We are transmitting herewith the text of a memorandum filed with the Office of Price Administration, January 8, 1946, relating to the removal of existing price ceilings applying to petroleum products.

On behalf of the Gulf Coast Refiners Association we respectfully request the privilege of filing this information with your committee for inclusion in the record of the coming hearings of that committee with respect to "the independent company." The memorandum follows:

MEMORANDUM

Independent petroleum refiners are confronted with a grave situation unless ceiling prices on petroleum products at the refinery level are removed promptly. The continued existence of the ceiling prices on petroleum products prevents normal flexibility of operations because petroleum refiners are forced by the fixed ceilings to maintain high yields of products that can be sold to best advantage, without too much concern over demand and the most economical operation.

The maintenance of fixed ceilings on petroleum products thus forces refineries to operate with high gasoline yields and subsequent lower yields of middle distillates, such as kerosene and burning oils and lower yields of residual fuel oils. The removal of ceilings at the refinery level need not necessarily exert marked effect on consumer prices, especially under decreased transportation rates, and such removal would certainly permit the refiners more flexible and economical operations.

The petroleum refiner processes 1 barrel of crude oil and from it produces a variety of products. The refiner can vary his yields of gasoline, kerosene, burning oils or Diesel oils and residual fuels by changing his crude oil or by taking different types of fractions (products) from his crude oil, and thus produce either greater or lesser amounts of each product.

Due to the low fixed ceilings on the middle distillates (kerosene and burning oils) and on the residual fuel oils, it has been, and continues to be, more profitable to produce a maximum amount of gasoline and a minimum amount of the other heavier products. Under existing ceilings it would be unprofitable to do otherwise.

If the ceilings on petroleum products are removed at the refinery level, the refiners would achieve greater flexibility of operations and would then produce those products which would be in most demand. Operations to meet demand would be economically sound because such would ordinarily result in a better over-all realization from the sale of the products. But such results cannot be accomplished so long as any product has a price ceiling.

By merely removing the ceilings at the refinery level, as was requested by this association in its telegram to the Office of Price Administration, September 7, 1945, the present critical shortages of kerosene, burning oils, and residual fuel oils existing, especially in the North and Northeastern United States, would be substantially relieved.

This association desires to state again that the independent refiner on the Gulf Coast has been able to absorb increased wartime operating costs because of the high rate of operation and his ability to compete in the manufacture and sale of various grades of aviation gasoline. The demand for such aviation gasoline has been reduced until only negligible quantities are being produced by independents. The independent refiner must now look to the market for other products and adjust his yields to shifting demands. Unless freer play of economic forces is permitted, there is a serious threat that some independent refineries must cease operations.

The independent refiners, however, can continue to operate, maintain present pay rolls, and reemploy old employees now returning from military service only if they are permitted to secure the benefits that should result from their ability to adjust their operations to changing conditions.

Wage and salary controls have been largely eased or lifted and the independent refiner, who is dependent solely on profits from his plant operations, cannot absorb rising operating costs under prevailing price ceilings. The prompt removal of price ceilings is essential to their continued operations.

GULF COAST REFINERS ASSOCIATION,
G. L. ROWSEY, *President*,
GEORGE REID, *Executive Secretary*.

Mr. FRASER. I would like to introduce a letter addressed to the chairman of the committee, dated March 11, 1946, from the Independent Refiners' Association of California, Inc., with an enclosed copy of a telegram of March 8, 1946, from the association to Mr. Paul Porter, Administrator of OPA, and an enclosed chart.

(The letter, telegram, and chart referred to are as follows:)

INDEPENDENT REFINERS' ASSOCIATION OF CALIFORNIA, INC.,
Los Angeles 13, Calif., March 11, 1946.

Hon. JOSEPH C. O'MAHONEY,
Chairman, Special Committee Investigating Petroleum Resources,
Senate Office Building, Washington, D. C.

DEAR SIR: In the hearing of your committee, opening March 19, on the subject, The Independent Company, we urge that consideration be given to the effect on independent refiners of the announced plan of Office of Price Administration to increase crude-oil prices, with the requirement that refiners shall absorb the cost of the increase.

The attitude of the independent refining companies in this district toward the proposed plan is expressed in a telegram sent by this association March 8, to Mr. Paul Porter, Administrator, Office of Price Administration, a copy of which is attached.

Capricious action of this kind on the part of the Office of Price Administration would be disastrous to the operations of the small refiners who in most instances in this area purchase 100 percent of their crude supplies, and whose present profits per barrel of crude run are less than the amount of the proposed increase of 10 cents per barrel in the cost of their crude.

With the end of the Japanese war, the sharp curtailment of Government purchases and the elimination of gasoline rationing, keen competition developed for position in the reduced over-all gasoline market, and independents, handicapped by the lack of wartime built aviation-gasoline facilities for use in the resulting quality race, have found it difficult to hold their former share of the market. The attached chart illustrates their loss of position and volume after August 1945, in the face of an expanding total civilian demand in California. Since motor gasoline normally represents the chief source of revenue for the small refiner, the present trend of declining sales of this product has already reduced his earnings, and ceiling prices for other products which are in high demand prevent the counteraction of such losses.

The plan to raise crude prices without general increases in product prices appears to be completely uneconomic so far as the independent refiner is concerned, and further emphasizes the wisdom of eliminating price controls in the petroleum industry. Since supplies are adequate in this district to meet demand, and in the case of gasoline a surplus exists, consideration should be given to the removal of price controls as being consistent with the previously announced policy of the Office of Price Administration.

Yours very truly,

Independent Refiners' Association, of California, Inc.,
C. A. Johnson, *President*.

Los Angeles, Calif.,
March 8, 1946.

Paul Porter,
Administrator, Office of Price Administration,
Washington, D. C.

We refer to news release issued by Office of Price Administration March 5, 1946, announcing increase of 10 cents per barrel in ceiling prices of crude oil to become effective during last half of March.

The proposed requirement that the increase in crude cost be absorbed by refiners is, from the standpoint of independent refiners in California, unfair, and in many instances would result in financial ruin and elimination of their refining operations. Remedies suggested in the form of adjustments in ceiling prices of products for individual companies are impracticable and would be valueless in this highly competitive business.

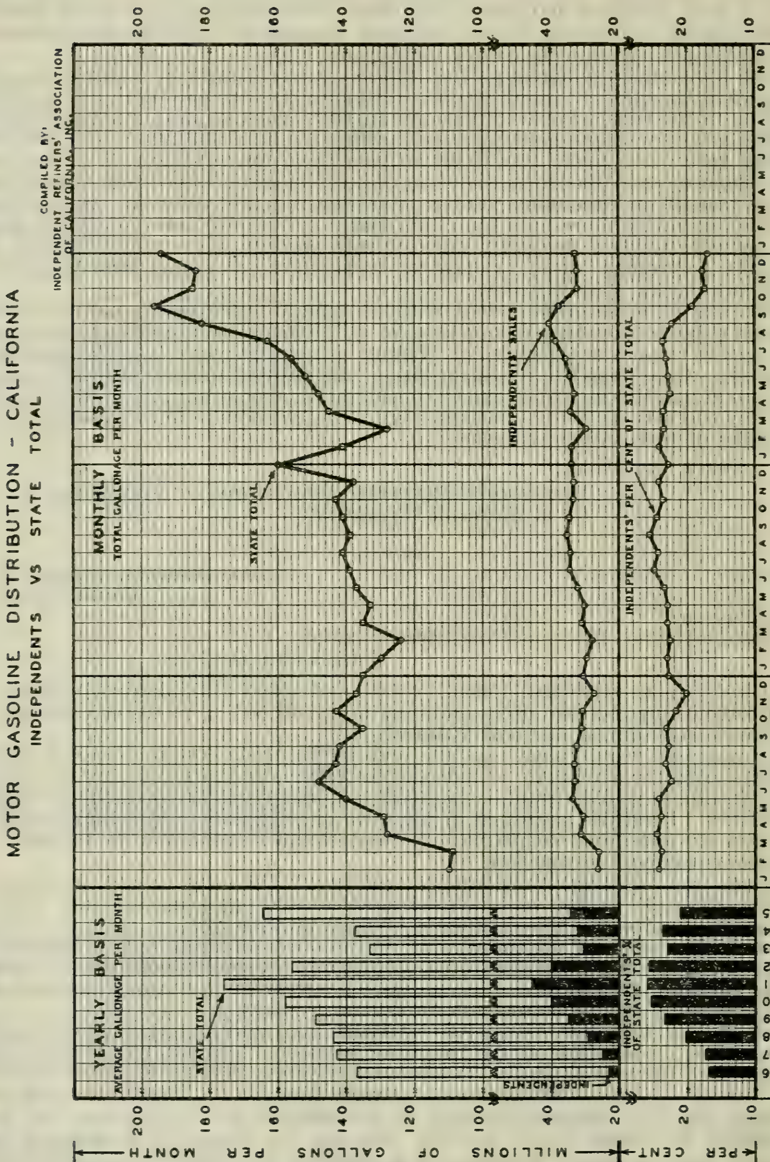
Current low earnings of independent refiners in this area caused by the competitive situation as well as increased material and operating expenses will be further jeopardized by indicated early additional labor costs.

Independent refiners recognize that the producer of crude oil is entitled to higher prices to offset increased costs of production, but refiners will be forced out of business if crude prices rise unless completely compensatory increases are simultaneously obtainable in prices for refined products.

Independent Refiners' Association of California submits this communication representing the attitude of the following individual independent refining companies: Bell Oil & Refining Co., Caminol Co., Century Oil Co., El Tejon Refining Co., Elm Oil Co., Envoy Petroleum Co., Exeter Refining Co., Five C Refining Co., Fletcher Oil Co., Harbor Refining & Transportation Co., Krieger Oil Co., Macmillan Petroleum Corp., Newhall Refining Co., Socal Oil & Refining Co., Sunland Refining Corp., Triangle Oil & Refining Co. Other companies which have not yet stated their positions will without doubt be similarly affected.

It is urged that any action taken in raising crude prices shall adequately protect the operations of the independent refiner whose continuance in business is important to the public interest.

Independent Refiners' Association of California, Inc.,
C. A. Johnson, *President*.


MOTOR GASOLINE DISTRIBUTION - CALIFORNIA
INDEPENDENTS VS STATE TOTAL
COMPILED BY: INDEPENDENT REFINERS' ASSOCIATION OF CALIFORNIA, INC.
YEARLY BASIS
AVERAGE GALLONAGE PER MONTH
MONTHLY BASIS
TOTAL GALLONAGE PER MONTH
STATE TOTAL
INDEPENDENTS' SALES
INDEPENDENTS' PER CENT OF STATE TOTAL
INDEPENDENTS' % OF STATE TOTAL
INDEPENDENTS
1936 1937 1938 1939 1940 1941 1942 1943 1944 1945
1943 1944 1945 1946
MILLIONS OF GALLONS PER MONTH
PER CENT

Mr. Fraser. I would also like to introduce two letters received from the United Corp. of Massachusetts, Cambridge, Mass., one dated July 17, 1945, and the other dated March 11, 1946. They are introduced with the consent of the writer.

(The letters referred to are as follows:)

United Corp. of Massachusetts.
Cambridge, Mass., July 17, 1945.

Special Senate Committee Investigating Petroleum Resources,
Washington, D. C.

Gentlemen: I have read in the July 14 issue of the Oil and Gas Journal an article entitled "OPA Defends Oil Price Policy in Memo to Senate Committee."

The defense was by Orville D. Judd, associate director of the Fuel Division of OPA, and was in rebuttal of the testimony of Walter S. Hallanan.

I wish to record myself in complete agreement with Mr. Hallanan in his accusation of unfair treatment of the oil industry, that is the producing part of the industry, by the OPA; particularly in his contention that the stripper-well premium plan is a failure; as well as that the independent segment of the industry is being liquidated.

All oil wells are a wasting asset in that when they give up their oil there is no chance of replacement except by finding new productive pools. But Mr. Judd does not think that replacement cost should be considered as a basis for price ceilings. He apparently thinks that oil can be produced by plowing up a field and planting oilseed and reaping the harvest the succeeding spring. He also must feel that the increased cost of seed and fertilizer has nothing to do with the cost. This may be true of wheat because a higher price for the ensuing crop would be received. But what about having to plough, harrow, fertilize and seed 150 fields to get one crop—that is the average fertility of 150 wildcats.

Mr. Judd mentions that the number of new operators (gleaned from one of his recent questionnaires) was in excess of the number who went out of business during the last year. Of course. The regular small independent producers are priced out of business while there has been an influx of new companies—loaded with war profits—coming into the business—the Northern Ordnance, Auto Ordnance, etc. Their dry holes can be charged against their war profits. If they are successful a great part of the cost of the well (which is proper) may be charged against current income.

These companies are prospecting at the expense of taxes. Since these new companies are not termed "major" they are classed as independents. That is the reason so many exploratory wells were drilled by independents. The real independent was forced by depression-priced crude oil to sell out or pass out or sweat it through with the hope of eventually receiving justice.

We are producers in Beebe Pool, Pontotoc County, Okla. The general pool has been divided into the Beebe pool and the East Beebe pool—one reservoir of oil. The East Beebe pool is granted a subsidy and the Beebe pool no subsidy. The Beebe pool averages slightly over 9 barrels per well and is, therefore, ineligible. Our 10 wells for several years have averaged 7 barrels or under but because we were in that part of the field which had an average production in excess of 9 barrels we receive no relief. There are pools where the average is under 9 barrels but some wells are in excess of the 9 barrels and are receiving the subsidy. In reading of those 6 telegrams from members of the National Stripper Well Association I am wondering on how much of their production in excess of 9 barrels they are getting a subsidy.

Subsidy is unjust in its essence; and could not be anything else but unfair in its application. That is why it has been so universally condemned by the industry. To say as Mr. Judd has that the price of crude oil is at its highest level since 1929 is unintelligent. The price of crude is low and has been low for years and costs of producing oil from stripper wells has been mounting as has also the cost of seeking new production.

Mr. Judd speaks about our reserves being at the highest level ever recorded. Maybe so, but the important thing is: Have they been increasing over the past 5 years in proportion to the increase in consumption?

Stop taxing the public for a favored few and allow the price of crude oil to reach a point where the legitimate producers can assure an adequate supply of oil for the future.

Very truly yours,

William J. O'Sullivan.

UNITED CORP. OF MASSACHUSETTS,
Cambridge, Mass., March 11, 1946.

SPECIAL COMMITTEE INVESTIGATING PETROLEUM RESOURCES,
Washington, D. C.

GENTLEMEN: With reference to the hearings to begin on March 19, 1946, on the position of the independent company in the petroleum industry.

The independent distributor has not been seriously injured because it has had during the war a large volume with a full margin. The same can be said about the independent refiner.

The producer (independent and major) has been hurt because the price of crude does not take care of the replacement cost. Those operators who are integrated can use their profits from the other branches of the industry to offset their production losses. The independent producers, who are fortunate enough to have flush production along with their stripper production, can make both ends meet by living off their capital. The stripper producers who are receiving a subsidy are in the same position—merely maintaining themselves by liquidating a wasting asset. But the stripper producer not receiving a subsidy is being squeezed to death between fixed prices and constantly mounting costs.

A pool receives a subsidy if its average production is 9 barrels per day or less. Because of a few good wells in a pool the average can be slightly over the 9 barrels, yet many of the wells produce only 6 or 7 barrels per day or less for which the producer receives no subsidy. This is our position to which we have called the attention of the OPA unsuccessfully time and time again.

The newspapers have just announced that the OPA intends to raise the price of crude oil 10 cents per barrel and have the refiners absorb it. Whether the refiners can absorb the increase now when their volume is less and unwieldy gasoline stocks have weakened prices, the writer does not pretend to know but the refiners certainly could have absorbed some increase over the past 5 years when their margins were stable and their volume large. Ten cents per barrel is absurdly inadequate.

While I realize this is not a hearing on the OPA I believe it is the only threat to the independent producer and that this fact should be brought to the attention of your committee.

The assumption by the "planners" that they know more about everybody's business than the operators themselves would be laughable if it were not so tragic.

Respectfully submitted.

WILLIAM J. O'SULLIVAN.

Mr. FRASER. I would also like to introduce a letter dated March 9, 1945, to the chairman of the committee from Mr. Neville G. Penrose, of Fort Worth, Tex.

(The letter referred to is as follows:)

FORT WORTH, TEX., *March 9, 1945.*

Hon. JOSEPH C. O'MAHONEY,
Senate Office Building, Washington, D. C.

MY DEAR SENATOR: Sometimes I doubt if Methuselah himself would be able to actually comprehend the oil industry if he were living in these times. However, I do thank you very much indeed for inviting my comments; and I would be only too happy to think I might in some small way develop the germ of a thought which might eventually be used to alleviate the plight of some 20,000 Americans whose selling price has been held by law at 1938 levels, but who are paying 1945 prices to live and operate.

The independent oilman made this Nation the greatest oil-producing country on the globe. No one with any knowledge of oil will dispute this statement. The independent operator has discovered most of the oil we are using today—oil which is winning the war for the United Nations.

Undoubtedly other nations have been blessed with large petroleum deposits—maybe even comparable to our own, but their system for individual enterprise does not encourage independent oil operators and, as a consequence, these particular deposits, if they do exist, remain largely undiscovered.

As an example of this, look at the Republic of Mexico. Oil was discovered in Mexico shortly after the turn of the century. As a matter of fact, oil was discovered in Mexico only a comparatively few years after it was discovered in

Texas; but, whereas oil is presently being produced in Texas from one end of the State to the other, Mexico is producing from but two localities—in the Huasteca and the Isthmus of Tehuantepec.

There are many known undeveloped structures, or what appear to be structures, in Mexico, but they remain today as they have remained since the creation of the world—undeveloped. No such inviting prospects would have remained untested on this side of the border, which I believe will serve to illustrate the point I am endeavoring to make. Regardless of the reason or the theory, the cold facts stand out—the nation with the independent oil operators has the oil.

There are some 20,000 independent oil operators. There are about 30 major oil companies. In the past, these independents have been the ones who largely discovered the oil reserves. The major oil companies purchased this oil and made it available to commerce in the form of finished products. These independent oil producers are receiving today approximately the same price they received for a barrel of oil in 1938. The published statements of the major oil companies show they are making huge profits. In the intricate maze of their accounting systems, it is difficult to prove or disprove in which particular department these profits are being made, nor does this point enter into the present discussion.

The major oil company produces crude oil and buys crude oil from the independent producer. From the moment a barrel of oil leaves the lease, it is in the hands of the major oil company. It is transported in pipe line or tank car, manufactured into a multitude of finished products, and marketed all over the world.

It is, therefore, largely a matter of bookkeeping whether the production, the transportation, manufacturing, or marketing shows a profit or a loss, and to what degree. To the stockholders it matters not at all.

The major oil companies, being the only large buyers of crude oil, have naturally always controlled the price; and, since many of these companies buy more oil than they produce themselves, it is to their advantage to keep crude-oil prices low. So we find a situation where some 20,000 oil producers sell their entire output to some 30 buyers (which, if grouped, would probably be considerably less).

The independent operator has never recovered from the depression. Crude prices have been low for the past 18 years. The power of the few buyers to control the price of the raw product has constantly enabled them to put the burden on the producer. In the past, when two or more of these major oil companies engaged in a price war to conquer additional outlets and markets and cut prices to attract new customers, the price of crude oil was slashed. If one of these larger companies overexpanded and found itself in financial difficulties, the price of crude oil was slashed. The producer, through all the years, has been forced to pay for the greed, inefficiency, and mismanagement of the industry, although he had no voice in any of these practices whatsoever. It mattered not which company cut the price of crude—or for what reason. The new price was met promptly by all of the other buyers by the very plausible explanation that they could not be expected to pay more for their raw products than their competitors.

Since oil became a vital part of our national economy the barometer of crude oil prices was the amount of oil stored above ground. When storage was running low, it was a good sign that oil prices would soon be low. When the storage was full, prices would be high. It was as simple as that. A large oil company would buy 10,000,000 barrels of oil at 50 cents a barrel, and then raise crude oil prices to $2 per barrel, showing an inventory of $20,000,000 which cost them $5,000,000. This is history. And who paid for it? The oil producer, as always.

Proration, adopted about 18 years ago, even eliminated the necessity of storing large stocks above ground. The producer now stores it below ground until it is called for by the buyer. Once when I was testifying before you, you asked me if I was in favor of proration. I have often wondered why you asked me that question at that particular time. I do believe in proration from the standpoint of eliminating waste of any national resource. I suppose proration as a whole did more good than it did harm, but the entire cost of proration was borne by the producer. Proration very probably eliminated much physical waste at the price of economic waste, which is now depressing the producing element of the oil industry.

There are two stages in the production of oil—flush and settled. When a field is newly discovered and the wells flow of their own accord, this is what is known

as "flush" production. Obviously it costs very little per barrel to produce oil under these ideal conditions. Later in the life of a producing well, it has to be pumped. The well might pump several hundred barrels a day, or as little as a fraction of a barrel a day. Obviously this is very expensive production, and is called "settled" production.

Nevertheless, this type of production in the aggregate amounts to millions of barrels of oil each year, and several billions of barrels of "settled" production remain underground. This is the type of production being abandoned for the simple reason the operator can no longer afford to produce it.

Before proration, the oil producer could strike an average estimated production cost. The cheap cost during the "flush" period when an oil well would flow 500 or 1,000 barrels of oil a day would permit the operator to accumulate adequate reserves to produce the field during its "settled" or secondary stage. The invested capital was returned very rapidly under these conditions, sometimes within a few months—seldom longer than a few years. The operator, therefore, could keep his capital turning over and could be more active. Proration froze his capital. Under proration the size of his well made little difference. He was permitted to flow but a few barrels per day. As a consequence, his operating costs per barrel were high from the start.

Practically all independent operators worked with very limited capital, and proration brought new problems. As a matter of fact, they had but two choices: One was to sell their production, and the other was to borrow money and produce their oil. Only the more desirable properties had a ready sales market, and as a rule only something large enough to be attractive to a major oil company.

The credit facilities available to the operators prior to proration were practically nonexistent, and since proration the credit facilities available are meager, costly, and burdensome. The bare cost of a well is all a small operator can borrow. In fact, he is doing well even to do that. With this little staking he can keep his money turning over until he drills one poor well, or a dry hole. At this point he has reached the limit of his resources.

Over a period of years the better type properties have been purchased by the larger oil companies. The poor type properties, the most expensive to operate and those whose estimated yield will barely pay the cost of development, have been retained of necessity by the independents. This is an important point which I suspect is frequently overlooked by statisticians and economists, and it will show why certain large oil companies engaged wholly in oil production can show nice profits, even at present crude prices.

Increased allowables and increased markets mean nothing to an operator who is producing all his lease will make. So the little independent, who is responsible for discovering the bulk of our Nation's oil resources, finds his commodity price frozen, his capital frozen, and his costs constantly increasing. Although the independent producer is suffering a gross injustice and his situation is critical, I seriously doubt if the best interests of our country would be served by granting him a price increase. Other groups and possibly other industries have problems, either real or fancied; and, if the oil producer received an increase, regardless of how much it was justified and how late in coming, they would immediately demand what they would term "equal consideration."

To be effective, therefore, as I see it, any relief must come from another quarter—and, frankly, I believe this is feasible, practical, and can be made immediately. It seems to me we could eliminate economic waste, release the frozen assets and energies of the independent producer by extending him credit in sufficient amounts and under terms and conditions which will be acceptable to him and safe and satisfactory loans to the Government.

If an operator has a million barrels of oil under the ground and is receiving $1 per barrel for it, loan him a million dollars. This, of course, is not a sound bank loan, but it is a sound Government loan. Just because oil is bringing $1 per barrel is no implication that this represents its intrinsic value. Who on earth can appraise the real value of probably the most necessary mineral on earth? I think we all agree the present price is one due largely to manipulation. It does not represent its fair value in commerce, and had the price been left to follow the normal trend, it would be found in a comparable position with other commodities.

Refining experts tell me a barrel of oil is worth approximately $6 to a refinery. If these figures can be substantiated—and I hardly believe it would be difficult—a $1 a barrel loan would be an ultraconservative loan, with full and adequate collateral.

Frankly, Senator, for the life of me, I cannot see why an oil producer should have to take it on the chin. His barrel of oil is just as valuable as a tank part or a shell. The law prohibits his product from selling at anything like its normal value, and I feel he should be protected, particularly if this protection will not disturb our present price structure.

There is adequate precedent for my opinions. Something of a similar nature was done for the cotton producer, for some of the metals, and for shipping—and the oil producer does not even have the assurance that crude prices may not actually be cut 25 cents or 50 cents a barrel when the present lush profits of the major oil companies fall off even slightly.

If the plan I propose has, in your opinion, any merit, I believe I should attempt to point out how easy it could be sabotaged. The program would probably be vigorously opposed by the major oil companies, since it immediately raises the collateral value of a barrel of oil in place. Quite naturally no operator would sell his property at an estimated 50 cents per barrel for oil in the ground if he could use it as collateral on the basis of $1 a barrel.

Such a plan would probably be opposed by interests claiming the Government is getting into the oil business. There can be little doubt but that the Government would be very much more interested in stabilizing crude-oil prices at approximately its fair value if it had several hundred million dollars' worth of paper with crude oil as its security.

Unless the agency making these oil loans was sympathetic, the program could be killed by needless red tape, rigid requirements, costly appraisals, exhaustive title examinations, and the personnel who would pass on these appraisals and requirements. I am not altogether sure that appraisals are necessary. The Petroleum Administrator for War and the United States Geological Survey have figures showing the estimated recovery of every oil field in the United States. If the applicant should give the legal description of his property, it is altogether possible an appraiser employed by the Government could very promptly advise how much oil remained in place and consequently its value as collateral.

When pipe-line companies are running the oil from a property and have been paying off on it, it is a pretty safe bet the title is all right. If the applicant could be relieved of presenting costly abstracts, and needless and tedious title opinions are eliminated, such a move would be constructive.

The loan should be for a long period of years at a low rate of interest, and a portion of the runs should apply to retiring the loan. The property pledged to secure the loan would be the total and sole security.

The 20,000 independent oil operators own, in round figures, about 6,000,000,000 barrels of oil. At prevailing posted prices, it is worth approximately $6,000,000,000. If I am correct in my statement that it is worth $6 a barrel, then the total amount is worth approximately $36,000,000,000. Somewhere in between these figures is probably a safe, sound, and lasting established value.

If my suggestion is considered feasible, the independents exercising this privilege will to all intents and purposes be refinanced. They will have a new capital to explore for new reserves or develop their holdings. On the average, each operator would receive $300,000. If those in authority deem it to their best national interest to retain crude prices at low levels or to import large quantities of foreign oil after the war—or regardless of their national policy on petroleum—this at least gives the operator some security. It puts him on a parity with the cotton farmer. He will know he has property with a definite collateral value, and not one subject to the whim of an individual or a group with sufficient power to dictate the price of a commodity, regardless of its intrinsic value.

Sincerely yours,

NEVILLE G. PENROSE.

Mr. FRASER. I would also like to introduce a letter dated January 23, 1946, to the chairman of the committee, enclosing a statement on the general subject of The Independent Company, from the National Council of Independent Petroleum Associations, Chattanooga, Tenn.

(The matter referred to is as follows:)

NATIONAL COUNCIL OF INDEPENDENT PETROLEUM ASSOCIATIONS,
Chattanooga 1, Tenn., January 23, 1946.

The Honorable JOSEPH C. O'MAHONEY,
Chairman, Special Committee Investigating Petroleum Resources,
United States Senate, Washington, D. C.

MY DEAR SENATOR: There is presented to you herewith a memorial from the National Council of Independent Petroleum Associations, bearing upon the subject of The Independent Company, which this council has authorized me, as its chairman, to transmit to the Special Committee of the United States Senate Investigating Petroleum Resources, with the request that it be accorded proper consideration by the committee and included in the record of its hearings.

We assure you that this statement represents a great deal of time devoted to careful study on the part of our organization, and in its preparation we have sought to be guided by a spirit of absolute fairness.

We thank you and your committee for the opportunity of participating in this vital activity which you have undertaken and are hopeful that our contribution will prove helpful in placing the petroleum industry and its many component parts in a more assured position.

If it is desired that a representative of this council personally appear before your committee to explain or clarify any part of this statement, we will be glad to accede to your request.

Yours very truly,

NATIONAL COUNCIL OF INDEPENDENT PETROLEUM ASSOCIATIONS,
H. L. THATCHER, *Chairman.*

From: National Council of Independent Petroleum Associations.
To: The Honorable Joseph C. O'Mahoney, chairman, and Associate Members of the Special Committee of the United States Senate Investigating Petroleum Resources.
Subject: The Independent Company.

GENTLEMEN: In connection with the inquiry which your committee is conducting into the resources and operations of the petroleum industry, the National Council of Independent Petroleum Associations presents this communication as a memorial and kindly urges that it be accorded your earnest consideration and included in the record of your committee's hearings.

THE NATIONAL COUNCIL

There are some 12,000 independent marketers and distributors of refined petroleum products in the United States, and in about one-half of the States they have established organizations to function in promoting their mutual welfare. With the outbreak of the global war just ended, there developed a pronounced sentiment among some of these organizations for the creation of a central council in which their problems, opinions, and ideas could be brought for frank consideration, and the crystalization of viewpoints on issues of national importance to independent marketers and distributors. This led to the formation of the National Council of Independent Petroleum Associations, composed of officials of the many State associations within whose memberships are represented two-thirds of the independent marketers and distributors of refined-petroleum products.

The members of these various State associations perform vital business functions in their own respective communities. Their total investment in the enterprises which they operate runs into many million of dollars; they provide employment for thousands of persons, thus contributing their share to the prosperity and economic stability of their localities; they are the source of a large taxable income to Federal, State, and municipal governments. They are good and useful citizens of their communities and many of them are outstanding in civic affairs.

While the National Council of Independent Petroleum Associations primarily represents its member associations, it also has the welfare of all other independent marketers and distributors of refined petroleum products as one of its principal objectives. The council recently was described in a leading publication for the petroleum trade as "an unusual organization in oil and almost any industry." It has no power to impress its opinions upon its member organizations except insofar as each president presents to the members of his associa-

tion and their duly elected officers a course of action for their consideration and decision.

In other words, the strength of the council lies in developing a common viewpoint of the independent associations affiliated with it. There is no distinct "majority" or contrary "minority" in the council. If no common viewpoint exists, then there is only the viewpoint, if any, of an individual association as expressed by its own officers and memberships.

MARKETERS AND DISTRIBUTORS

Heretofore, it has been indicated that there are now some 12,000 independent marketers and distributors of refined petroleum products in the United States. They frequently are referred to as "jobbers." According to the 1939 United States Census, there were 9,429 such marketers and distributors in the country then, representing approximately 31 percent of the number engaged in wholesale operations and doing approximately 29 percent of the total volume of marketing. Growth of the independent marketers and distributors has kept pace with the rise of the petroleum industry and has been abreast of the automotive era. Gasoline and automotive products constitute generally the principal items of the business volume of these marketers, but in many areas fuel oils are a very large factor in their business.

The independent marketer and distributor purchases his petroleum merchandise from the refiner or through the agency of a broker. In numerous instances he transports the merchandise from the refinery, or terminal, to his bulk plant, from which it is distributed to retail dealers and consumers, including commercial accounts and the farm trade. Frequently he also operates retail stations in addition to his wholesaling business. The scope of enterprise of such marketers ranges from a one-man operation doing a business of a few thousand dollars a year in a rural community to an aggregation of bulk plants over a widespread area doing a volume of several million dollars yearly.

Such marketers may sell under the brand names of their suppliers, but in a very large number of instances the products they sell bear their own brand or name. Although independent marketers and distributors are "small businessmen," they have been a tremendously large factor in making petroleum products readily available at every cross roads in the United States, and have demonstrated most clearly their economic essentiality. Despite "frozen" selling prices, increased operating costs, higher taxation, severe manpower shortage, and reduced volume necessitated by rationing controls, the independent marketers and distributors have succeeded, through the sheer exercise of their ingenuity, in maintaining their economic position during the war, and they also made noteworthy contributions to the war effort.

It may be pointed out that a substantially large number of independent marketers and distributors have a considerable interest in transportation facilities. In moving merchandise from their bulk stations and warehouses to retail dealers, including their own retail outlets, to commercial users and the farms, practically all of them employ tank wagons or tank trucks; many operate transport trucks with which to deliver products from refineries, marine terminals, and pipe-line terminals to their own establishments, commercial and industrial accounts, and governmental agencies, and often they transport products for other petroleum companies. Many such marketers and distributors operate barges in making deliveries to their marine terminals situated on waterways.

INTEGRATED OIL COMPANIES

In addition to many independent companies engaged in the production of crude oil and many refiners, some of whom are producers, there also are a great many who are producers, refiners, transporters, and marketers. Those engaged in all of these four branches are known as integrated companies. Some of the integrated companies, besides selling to independent marketers and distributors, also supply subsidiary or affiliated companies, and conduct marketing through their own bulk plants and retail outlets, thus creating a situation in which there is almost every conceivable combination, including those which market wholly or in part through marketers and distributors and those which do not have any "jobber" connections.

In the competitive marketing field, the independent marketer and distributor is at all times in competition with the refiner-marketer, or integrated company. The 1939 United States Census report shows that refiner-marketers owned 21,237

(69 percent) of the bulk plants, compared to 9,429 (31 percent) operated by independent distributors. The volume of business of the refiner-marketer was 71 percent, against 29 percent of that of the independents. It is our belief that there has been no material change in this relative standing since 1939, as almost the entire period has marked the direction of all-out efforts of the industry toward meeting the Nation's war demands. There can be no question but that the integrated companies and the producer-refiners have been subject to the same factors that have reduced the civilian business of the independent marketers and distributors.

The singular role which petroleum products performed in the war is familiar to your committee. The enormous demand of our fighting establishments, including, of course, the manufactories of war materials, made it necessary for the integrated companies to increase very largely their producing and refining capacity. With this increased refining capacity and with control over their own production of crude oil and transportation facilities in widespread areas, their competitive advantages over the independents are very pronounced.

POSTWAR COMPETITION

For many years prior to the onset of the so-called World War II, improvement in the production, refining, and transportation methods of the industry and largely increased consumption of petroleum products, chiefly gasoline, had resulted not only in products of higher quality but a consistently lowered price to the consumer. This trend is reflected in the price of regular-grade gasoline at service stations in 50 representative cities of the Nation, as follows:

	Service station price, cents per gallon		*Service station price, cents per gallon*
1919	25.41	1939	13.31
1924	19.46	1942	14.46
1929	17.92	1945	14.58
1934	13.64		

The independent marketer and distributor, it is emphasized, through his traditional economies in marketing operations, had a vital part in effecting the price reductions as reflected in the foregoing table.

We desire to stress the fact that during the war period the independent marketer and distributor did not share in the so-called war prosperity as did the integrated companies. Prices at the "jobber" level have been "frozen" since October 1, 1941. His expenses have been increased through higher wages and other operating costs, including a very burdensome expense necessitated by the rationing programs, which also reduced his volume greatly. The reduced volume is reflected in the following tabulation of Federal gasoline tax receipts:

	Amount		*Amount*
1941	$371,135,781	1943	$265,303,272
1942	336,684,644	1944	328,597,298

It is a fact that the war period has placed many independent marketers and distributors in a precarious condition and it has been only by all-out effort and economical operation that they have been able to remain in business during the war years. The profits, if any, that have been made have been subject to high income taxes, leaving them very little, if any, surplus with which to provide for their current needs for replacing worn-out and obsolete equipment and modernizing their business facilities, as must be done as early as possible if they are to continue as business operators. The independent marketer and distributor is a small businessman, a believer in free enterprise, free competition and, in the American system of freedom of action, is a believer in reward for accomplishment.

The integrated companies and the refiner marketers, on the other hand, all have had a long period of profitable operations and generally are reported to be in excellent financial condition, with elaborate plans for extensive postwar expansion.

The producers have contended, and we do not question their claims, that crude-oil prices have been inadequate. They should have a fair price for their product. An improved crude-oil price rightly would mean an adequate refinery price. In the same manner, an adequate refinery price would call for an adequate wholesale and retail price for the finished products. It is our considered judgment

that if a free economy is permitted to operate under the law of supply and demand, an economic price level can be attained that will provide adequate fairness to all branches of the petroleum industry and to the consumers of its products.

Independent marketers and distributors do not entertain the belief that the lowest cost to the consumer is the ultimate goal of business, or that low price is the full measure of value. They recognize the desirability of a low price, but a fair price; one under which those in each branch of the industry, competing with the integrated companies, would be able, under proper management, to operate successfully.

The marketing branch of the petroleum industry provides employment for hundreds of thousands of men. Under a monopoly or approach to monopoly, many savings could be made in the costs of distribution and prices reduced to the consumer, but such an accomplishment would be at the expense of the Nation as a whole and the disruption of established methods of distribution, with consequent loss of employment to large numbers of people. With the ending of the war and the return of men from the fighting services, the petroleum industry must, and most assuredly will, do its part in reabsorbing into its operations as many men as it can employ gainfully.

One of the finest demonstrations of the desirability of the American system of free enterprise is to be found among the independent marketers and distributors of petroleum products. For the most part these operators, through their own adaptation, vigorous application to their work, and personal savings, have risen the hard way to useful and important participation in commercial activities. It is natural and proper, of course, that they should resent the encroachments of monopoly or "organized bigness" when size and position are employed to gain unfair advantage over lesser competitors, thus exceeding the bounds of morality and legitimacy. We hold that under the American system of free enterprise, the small businessman is entitled to adequate protection against unfair and rapacious competition. We earnestly recommend to your committee that a complete study be made of the laws having to do with monopoly, unfair competition, and restraint of trade with a view to determining whether sufficient protection has been provided for the small businessman not only within the petroleum industry but in all industry.

PIPE LINES

Independent marketers and distributors look upon the colossal development of pipe lines for the transportation of petroleum products all over the Nation in recent years with considerable trepidation. There can be no question but that these lines when used as common carriers by the integrated companies often afford rather oppressive advantage over competitive forms of transportation. Pipe-line transportation is not always available to independent marketers and distributors because of lack of open-storage facilities at terminal locations. We are of the belief that a thorough investigation should be made to determine whether these common carriers could be made to serve the general welfare to a degree that has not as yet been accomplished.

A great deal of thought is being given by our people to plans for disposal by the Federal Government of the Big Inch and Little Big Inch pipe lines, which were constructed with a tremendous outlay of public capital as a wartime necessity. Our position is one of opposition to proposals that these costly carriers be destroyed. It is our view that the cause of national defense is so paramount that these carriers should be retained for that purpose.

There is an unanimity of sentiment among independent marketers and distributors that under no circumstances should the Big Inch, Little Big Inch, or pipe lines constructed with private capital and controlled by corporate groups be utilized under conditions that either would eliminate the independent or create injurious disadvantages for him.

When pipe lines are built at public expense or when they are operated as public utilities, we insist that use of them should be made available to the independents, which likely could be accomplished through reduction of minimum-tender quantities to a reasonable basis, thus enabling individual independent marketers or groups of such in proper marketing areas to enjoy the benefits of pipe-line transportation.

We are anxious that the pipe lines built with public funds shall not be handled in such a way that the Nation's system of gasoline distribution will become

demoralized or that their disposition will give unfair competitive advantage to one or more companies over others.

CARTELS

Economists regard cartels as combinations of separate entities to fix prices, involving also control over production and markets. They are glorified trusts. The organizations affiliated with the National Council of Independent Petroleum Associations are unequivocably opposed to such agreements, holding them to be monopolistic in nature and contrary to the well-accepted theory of free enterprise. We assert that production, prices, and markets should be the outgrowth of freedom of competition, rather than the result of determinations by agreements. Cartels foreshadow the destruction of that very individual initiative which has done so much to advance the standards of American living.

TAXATION

Recent reports from Washington indicate that the Congress shortly will have developed a program of taxation relief for both individuals and business enterprises. Action toward such an end we commend most heartily. Independent marketers and distributors have been greatly encouraged by the contemplated increasing of the amount of exemption from the excess-tax computation to $25,000. This will be most helpful in enabling them to place their facilities in proper operating condition and meeting the needs for postwar modernization of facilities and putting people to work.

We call upon the Federal Government to abandon the field of taxation upon motor fuel and lubricating oil, as already has been recommended on occasions by committees of the Congress. Independent marketers and distributors are as one in the belief that petroleum products are carrying an undue burden of taxation, and that their taxation should be reserved solely to the States, in many of which the rates already are excessive.

We also urge that legislation now pending which would repeal the automobile use stamp tax be adopted speedily.

It may be pointed out that the pyramiding of taxation on gasoline by Government has severely increased the financial burden of motorists. Motorists, who are the principal customers of petroleum marketers, generally believe that they are deserving of relief from Federal taxation of these petroleum products, and that such taxation has the effect of depriving them of the benefit they should receive from decreased retail prices of gasoline.

TRADE PRACTICES

The interest of independent marketers and distributors in sound trade practices is intensified by the fact that a substantial majority of them operate retail outlets of their own, in addition to supplying other dealers, commercial accounts and the farm trade. While recognizing that many retail outlets, because of many factors beyond the control of their owners or operators, are unable now to pay such rentals as were justified by the original investment in them, we readily condemn the construction and subleasing of costly service stations, regardless of ownership, at low rentals for the purpose of suppressing competition. We also deplore any trend, now that the war is over, toward the ill-considered and uneconomic construction and expansion of retail outlets which are unwarranted by public demand or convenience.

It is our position that, while it is not good business practice for any company, large or small, to operate any portion of its business at a loss, we appreciate the fact that it is not always possible for enterprises to be so conducted that profits will be realized at all times in all of its operations, and we do not believe that legislation can make over-all profit a certainty. We subscribe to the theory that all companies should seek to operate their marketing at a profit, reflected by separate records, but are not in agreement with the idea that such companies be required legally to make a higher charge for their products in order that others may sell for less.

RESTATEMENT OF RECOMMENDATIONS

1. Attainment of an economic price level that will provide adequate fairness to all branches of the petroleum industry and to the consumers of its products.

2. Complete study of the laws relating to monopoly, unfair competition and restraint of trade with a view to determining whether sufficient protection has been provided for the small businessman.

3. Preservation of wartime pipe lines constructed at public expense as a part of the program for national defense. Prevention of the utilization of these pipe lines in such a way as to work injurious or unfair disadvantages upon independent marketers and distributors. Availability of use of all pipe lines operated as common carriers to the independents on a reasonable basis.

4. Rejection of cartel agreements.

5. Taxation relief, including repeal of the Federal taxation on motor fuel and lubricating oil, and repeal of the Federal auto use stamp tax law.

6. Elimination of unsound trade practices, including leasing of costly service stations at low rentals for the purpose of suppressing competition.

7. Preservation of the American system of free competitive enterprise.

Respectfully submitted,

NATIONAL COUNCIL OF INDEPENDENT PETROLEUM ASSOCIATIONS,
H. L. THATCHER, *Chairman.*

Mr. FRASER. I would also like to call attention to some interesting data in a circular put out by the Independent Petroleum Association of America, dated March 26, 1946, relating to January 1946 imports of petroleum. These figures were received by that Association from the Bureau of the Census, United States Department of Commerce.

(The table referred to is as follows:)

Import report—Crude petroleum and petroleum products, January 1946

[All figures in thousands of barrels]

	Latest month, January 1946		Previous month, December 1945, total	January 1945, total
	Total	Daily average		
Total imports	12,806	413.0	9,919	6,923
Imports by products:				
Crude petroleum	8,302	267.8	6,789	3,958
Motor fuel				141
Kerosene				
Distillate fuel oil	581	18.7	551	6
Residual fuel oil	3,878	125.1	2,579	2,773
Lubricating oil				
Wax				
Asphalt	45	1.4		45
Unfinished oils				
Total refined	4,504	145.2	3,130	2,965
Imports by country:				
Venezuela	8,318	268.2	6,221	3,093
Netherlands West Indies	3,122	100.7	2,840	2,946
Mexico	375	12.1	325	68
Colombia	982	31.7	524	797
Trinidad and Tobago	9	.3		12
Other			9	7
Imports by tax classification:				
Taxable for domestic consumption	9,962	321.3	7,894	3,960
Free for vessels	2,499	80.6	1,540	6
Free for manufacture in bond				
Free for Government use	345	11.1	485	2,957

Prepared by the Independent Petroleum Association of America from data furnished by the Bureau of Census, U. S. Department of Commerce.

The CHAIRMAN. That concludes the statements you wanted to put in?

Mr. FRASER. Yes.

The CHAIRMAN. They are all received.

The meeting of the committee is adjourned.

(Whereupon, at 12:40 p. m., the committee adjourned.)

(The following communications were received after the close of the hearing:)

ARMY SERVICE FORCES,
OFFICE OF THE QUARTERMASTER GENERAL,
Washington 25, D. C., April 1, 1946.

Hon. JOSEPH C. O'MAHONEY,
Chairman, Special Committee Investigating Petroleum Resources, United States Senate.

DEAR SENATOR O'MAHONEY: For the information of the Senate Special Committee Investigating Petroleum Resources there is shown below the stock position of crude petroleum, motor fuel, distillate fuel oil and residual fuel oil, in thousands of 42-gallon barrels on the dates indicated:

Month	Crude petroleum	Motor fuel	Distilled fuel oil	Residual fuel oil
December 1945	218,763	97,676	35,778	37,158
January 1946	223,442	102,394	28,990	34,573
February 1946	229,430	104,462	25,148	33,742
March 1946	[1] 225,153	[2] 104,781	[2] 25,747	[2] 33,294

[1] As of Mar. 23, 1946.
[2] As of Mar. 16, 1946.

The sources of the above information are Bureau of Mines, and American Petroleum Institute. The March figures given have not yet been published and are subject to minor revisions before publication.

Sincerely yours,

G. H. VOGEL,
Colonel, Quartermaster Corps.
War Department Liaison Officer for Petroleum.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE SECRETARY,
Washington, April 4, 1946.

Hon. JOSEPH C. O'MAHONEY,
United States Senate.

MY DEAR SENATOR O'MAHONEY: According to the transcript of the hearing before the Senate Petroleum Resources Committee on March 20 the availability of geophysical prospecting to the independent operator and the estimated costs of operation were discussed. However, since a representative of the Interior Department was not present the information could not be readily obtained for the records. The Department does not have available detailed information on private companies capable of conducting this type of prospecting or the actual costs. Published articles appearing in recent trade journals do contain some of the information requested and I am taking the liberty of quoting certain parts therefrom:

Mr. C. A. Heiland, president, Heiland Research Corp., writes, in the February 1946 issue of Mining and Metallurgy, under Geophysics, page 109, as follows:

> *Oil exploration.*—The upward trend in geophysical oil exploration which prevailed during the first three war years continued sharply into the first 4 months of 1945, then leveled off with a slight drop toward the end of the year. (See fig. 1.) The average total number of geophysical field crews in 1945 was 562, representing a 25-percent increase over the average of 451 in 1944. The average number of seismic reflection and refraction crews was

361 or 64 percent of the total, representing an increase of 20 percent over the average of 1944; gravimeter crews, numbering 172 or 31 percent of the total, were 36.5 percent higher than in 1944; miscellaneous crews (practically all magnetometers), were 29 or 5 percent of the total, representing a 26 percent increase over the 1944 average. The relative proportions of seismic, gravimeter, and magnetometer crews were virtually identical in the past 2 years, with a slight increase in gravimeter at the expense of seismic operations in 1945. Making allowances for increases in operating costs, the oil industry spent an estimated average of $3,249,000 per month on seismic field work, $774,000 a month on gravimeter surveys, and $72,500 a month for magnetometer and other operations, making the total annual field expense about 49½ million dollars. With an estimated cost of 5.7 million dollars for well logging, the total outlay for geophysical oil work in 1945 is estimated at 55.2 million dollars.

and John F. Anderson, of the Geophysical Engineering Co., makes the following observation in an article "Trends in Geophysical Exploration," page 43 of World Petroleum for March 1946:

Without exception, major oil companies expanded their use of the seismograph during the past 4 years. Seismic exploration was at a peak in the middle of 1945 and was limited only by the lack of available contract crews. The tremendous amount of continuous and diagnostic subsurface information obtained by this method during the period as compared to that supplied by the expanded drilling program resulted in a general acceptance by production executives and geologists of the method as a necessary adjunct to every exploration program in the areas in which it is applicable. The drilling up of marginal seismic prospects has demonstrated the effectiveness of this method in exploring for low relief structures.

Many of the smaller oil companies have employed experienced geophysicists to direct and coordinate their geophysical exploration programs. The major portion of these men were formerly major oil company seismograph party chiefs and supervisors. They have been a great factor in the success of the smaller company exploration work in recent years.

The number of geophysical service contract companies has increased by an approximate factor of three during the past 4 years. Unlimited business during the period induced geophysicists to leave larger organizations for the chance to succeed on their own. They have purchased high quality equipment. Their survival will depend in part on the extent to which the larger contractors shift operations to foreign fields. American companies are preparing to do the major part of foreign contract geophysical surveying.

* * * * * * *

Smaller oil companies have expanded their use of the seismograph in recent years and have generally acquired a minimum staff of geophysicists to supervise and coordinate these operations. In order to maintain continuous exploration during the war years several of these companies developed their own field crews or purchased outright one of the many one- or two-crew war-born contract companies. Although many independent producers could not afford the long-term contracts preferred by seismic contractors, several did employ one crew continuously for a year or more during the war. Short-term service to these operators was provided in several local areas by small seismic contractors. Much work done by independents during the period of intense drilling was predicated on their ability to sell or trade acreage over small subsurface closures authenticated by seismic data.

The costs of conducting geophysical prospecting vary according to the intensity of the shooting, the topography, the depth of the shot holes, and the size of the crews. W. H. Ferguson, executive vice president, Continental Oil Co., testified before you on August 31, 1945, at the Denver hearings on S. 1236, page 177 of the printed record, that "seismograph work very generally costs from $10,000 to $15,000 per month and over any reasonable area might require 2 or 3 months of work." Oral estimates recently furnished by oil-company executives indicate that probably $15,000 to $20,000 per month may more nearly approach the cost. This type of prospecting is expensive for the average small independent and its use is no doubt largely limited by finances. From the number of independent geophysical companies known to exist it is reasonable to expect that this type of prospecting is available to financially responsible independents.

Sincerely yours,

R. R. SAYERS,
Acting Assistant Secretary.

FEDERAL TRADE COMMISSION,
Washington, May 10, 1946.

Hon. JOSEPH C. O'MAHONEY,
Chairman, Special Committee Investigating Petroleum Resources, United States Senate, Washington 25, D. C.

DEAR SENATOR O'MAHONEY: You probably will remember early in the testimony you asked whether I could furnish certain information respecting the number of gasoline outlets operated by the large integrated companies. I have prepared such a statement and am enclosing a copy herewith.

Sincerely yours,

WILLIAM H. ENGLAND, *Director.*

[Enclosure]

The available information on changes in the operation of bulk plants and retail service stations by large integrated companies which you requested me to furnish is shown in the following statement:[1]

Year	Bulk plants		Retail service stations	
	Number	Number of operating companies	Number	Number of operating companies
1938	19,783	18	69,666	18
1937			66,052	18
1936			59,371	18
1935	19,609	18	75,547	18
1934			98,246	18
1933	19,426	18	125,327	18
1932			123,209	18
1931			118,280	18
1930			79,037	17
1929	15,646	17	33,704	17
1926 (June 30)	15,128	40	12,644	40

The 18 major companies operated more retail service stations in 1933 than in any other year, 125,372, compared with 69,666 in 1938. In 1933 the 18 major companies operated 73.5 percent of all the retail service stations in the United States and in 1938 approximately 28 percent.

The decline in the number of retail service stations operated by the 18 integrated companies resulted principally from leasing stations to individual operators under the so-called Iowa plan, the principal announced reason for which was to escape heavy State chain-store taxes and payments of social-security taxes.

[1] Sources of information: Federal Trade Commission Petroleum Industry, Prices, Profits, and Competition, December 12, 1927, for 1926, and Distribution Methods and Costs, pt. IV, Petroleum Products, p. 56, Automobiles, Rubber Tires and Tubes, Electrical Household Appliances, and Agricultural Implements, pp. 61–62.

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